

HOUSE & GARDEN

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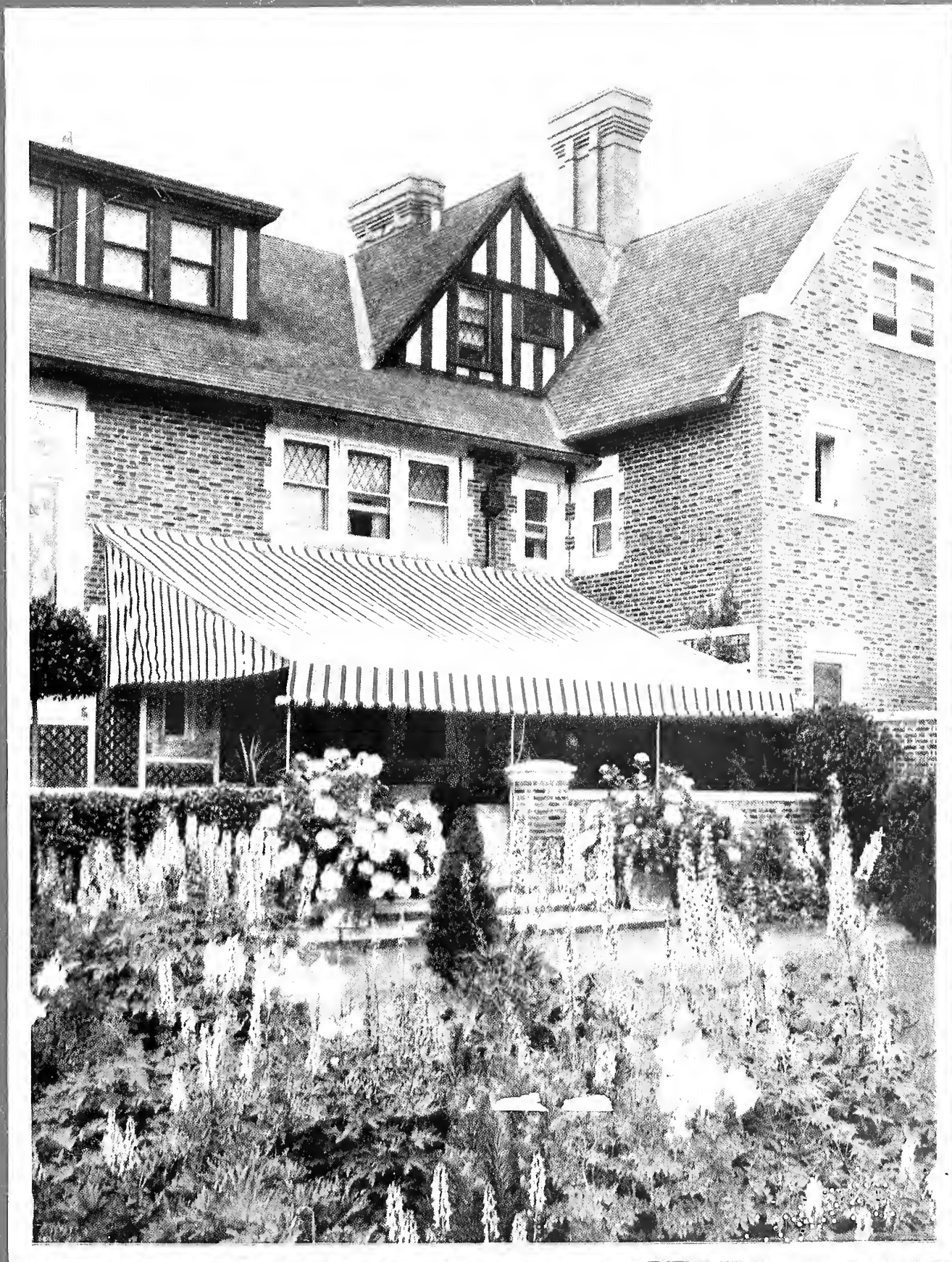


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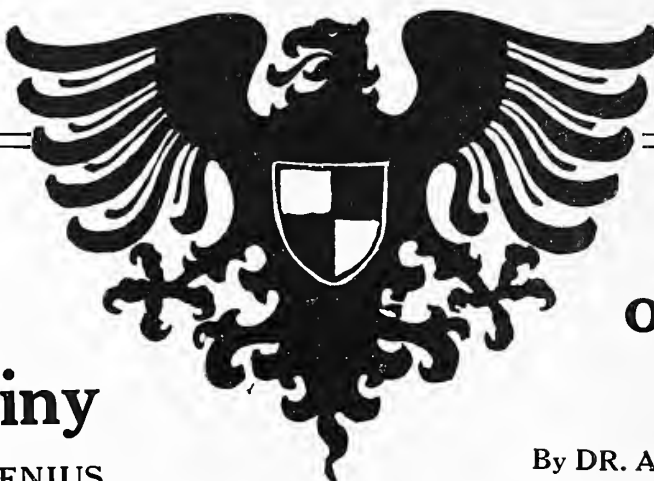
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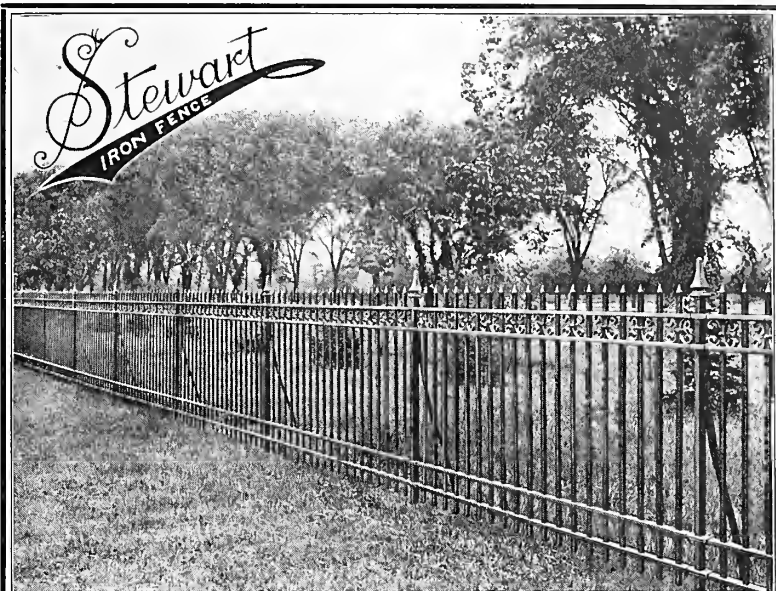
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A builder is apt to be judged solely by the estimate he submits. If the owner and the architect would devote half as much time and thought to investigating the class and character of work done by the contractors furnishing the estimates as they do to the figures themselves there would be better and more durable houses built. Money spent on a home can never be as economically spent as when the house is being built for the first time. It is always costly to go over work that has proved unsatisfactory.

In making up a list of prospective bidders, only those should be selected who confine themselves to work of a character similar to the ideal of the man planning a house. A man planning to build a country home, with barns and dairy, would hardly employ the services of an architect whose specialty is model tenements. The same discrimination should be used regarding a builder's qualifications. Where a list of contractors has not been carefully prepared the owner will be surprised at the wide range of quotations. He is sure to feel that the builder submitting the highest figure is desirous of making a larger profit than he should, while the contractor submitting the lowest is considered one satisfied with a reasonable profit. The fact is, both are probably expecting to make just about the same percentage of profit. They are simply planning to furnish a different character of work.

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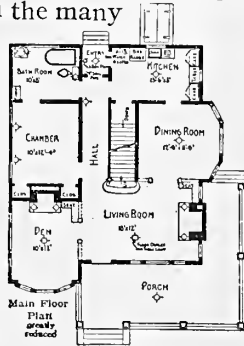
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After the builder has been selected the owner should realize that the responsibility for the completed house has been definitely fixed and that it is the builder who is to make a reality out of a dream.

A word might be said here regarding plans and specifications furnished by architects. These should not be loosely and carelessly drawn, nor should they be filled with technicalities and permit only of narrow or limited interpretation. In the first case, an unscrupulous builder is sure to take advantage of the owner. In the second case, a careful builder, and the very kind that should be desired, will estimate higher than he would for the same character of work under proper specifications. An inexperienced estimator and builder is sure to get into trouble and cause the owner delay and expense that no time penalty or bonding company will ever fully repay.

Some architects, even with the best intentions, so word their specifications as to oblige the builder to purchase the material or work of certain manufacturers. Under these limitations the sub-contractor takes advantage, in his quotation, of the builder, and increases the cost to the owner. The reliable contractor, who must stand back of his work for a year or more after completion, hesitates to assume the responsibility for the material or workmanship, in the selection of which he has no choice.

The builder's lot is not an easy one; his work requiring the services of artisans and mechanics of many trades, and his materials he must procure from all parts of the country, relying in many cases on promises of delivery and quality beyond his control. His work is all done in the open, subject to interruptions and delays due to climatic conditions. Each house he builds is different from the last, presenting new problems often unforeseen until after the actual work is started.

The owner and architect should frequently visit the building as the work progresses and confer with the builder, assisting him in settling the many questions that are sure to arise. The owner will find on these visits that many things about the house will look different from



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what they did on the plans. If the builder is selected with care and is receiving a fair price for his work he will be glad to make changes and substitutions.

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The owner will generally find the builder a very practical man; a man who is exerting his best efforts to comply with the architect's specifications and plans; complete his contract to the entire satisfaction of the owner; establishes a reputation for good work and still have his books show a profit.

Some Indoor and Outdoor Books

THE man who loves his garden, loves to potter around in it and watch his labor grow to burgeoning beauty, is invariably interested in books on the garden and the plant and animal neighbors that inhabit it. For such are several volumes issued this fall from the house of Frederick A. Stokes & Co. Two little books made to slip into the pocket are best for companions on the cross-country tramp: "Wild Fruits of the Countryside," by F. Edward Hulme, a collection of concise plant descriptions illustrated with colored plates; and "Toadstools and Mushroom of the Countryside," by Edward F. Stop, in which, with camera and pen, the author bags an interesting game. No less interesting is Mr. Stop's other volume, "Messmates," a popular account of what science terms Commensalism and Symbiosis—the remarkable partnerships habitually set up between animals totally unrelated, and even between animals and plants.

That plants do many things that human beings do is the subject of Royal Dixon's interesting volume, "The Human Side of Plants." In a scientifically accurate but popular style he tells of the plants that go to sleep, walk, swim, defend themselves, rob, fish, dance, keep servants and build airships. The book reads with the vividness of a romance.

A genuine contribution to garden literature is found in Walter P. Wright's beautifully illustrated "Garden Trees and Shrubs." To read this book is to learn not alone many new secrets about old varieties, but the whole story of the new kinds that have been discovered of late.

For the dog and pet fancier are two volumes of practical instruction: "Dogs, Their Selection, Keeping and Breeding," by F. T. Barton; and "Pets and How to Keep Them," by Frank Finn. The latter is suitable for the boy who is just entering upon that time when he takes an interest in the birds and beasts about him. For that same lad at a later date—and even for his grown-ups—is a bulky volume, "Every Man His Own Mechanic," a simple guide to work in the tool shop.

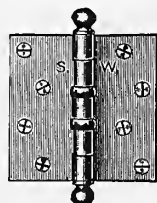
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Exercise for the Dog

AS winter closes in and snow and slush make bad going under foot, the majority of house dogs prefer lying in front of the open wood fire or beside the radiator to hustling around out of doors. Put them outside to amuse themselves, and they yelp shiveringly at the door to gain readmittance. Leave them to their own devices indoors, and they accumulate fat, laziness and a passion for their own luxurious comfort. There is no harm in a reasonable amount of this sort of thing, but an excess leads to serious trouble. The remedy, of course, is regular exercise.

The importance of proper exercise to the well-being of dogs can scarcely be overrated. It is just as essential as with human beings, and the results of its neglect are similar.

By proper exercise is meant a good run of at least fifteen minutes daily. If you can possibly do so, arrange for the dog to get this exercise when off the leash; half an hour of free running is worth more than half a day of sedate promenading at the south end of a five-foot leather thong.

Do not, however, let your dog's run be unsupervised, else he is apt to get into trouble, do those things which he ought not to have done, and leave undone those things which he ought to have done. Go out with him and keep him on the move. There is no cause to worry if he gets wet or muddy or covered with snow, provided he keeps actively on the go; only delicate toys are endangered by such adventure. But when you return to the house, get him dry as speedily as may be.

Exercise of this sort is an easy enough thing in the country, but in the city it is not so simple. There local ordinances, as well as your regard for the safety of the dog and the feelings of other people, usually preclude a free run, and you are forced to adopt the alternative of leash or chain and a walk more or less restricted between the confines of brick and mortar. Hence it becomes necessary to extend the time limit, for the value of exercise as a health producer varies as the number of steps the dog takes, which latter factor is naturally diminished when the dog is attached to you by a tether. So make your own daily walk a sharp, brisk one, and take the dog along. Go a mile or two miles if there is time, and whenever opportunity offers extend the distance so that the dog is reasonably tired when you return.

Apart from the purely bodily benefit induced by brisk exercise, the dog which receives it regularly is far more alert and companionable than his lazy brother. He has a spirit of get-up-and-go that is a satisfaction to himself and to the people with whom he comes in contact.

ROBERT S. LEMMON.



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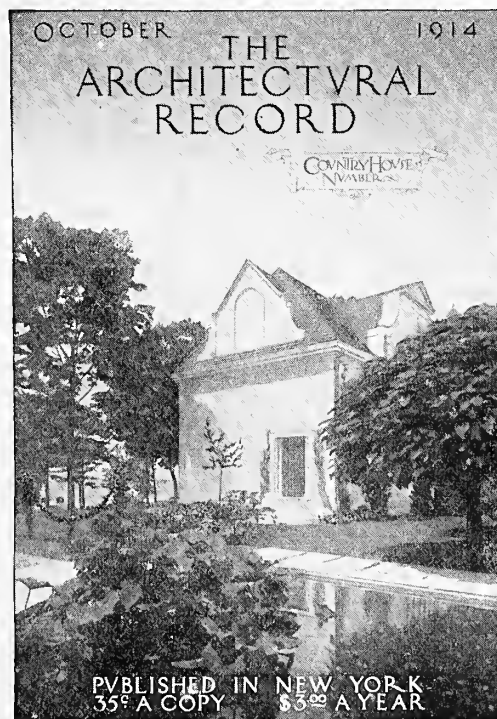


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Walls from the Outside In

(Continued from page 64)

lapped. On top of this we strap the whole wall, either vertically or horizontally, with 1" x 1" strips, 9" on center. Over this is stretched a metal lath, either woven wire cloth or expanded metal. This keeps the metal one inch away from the backing.

We are now ready for the plaster. This is a mixture varying in its proportions with each plasterer, of cement, lime and sand. It is applied in three coats. The first is mixed with hair and troweled firmly, so that the mortar is squeezed through the mesh and falls over behind. Thus, if properly done, the wire mesh becomes entirely imbedded and so preserved from chance of moisture and consequent rust. This coat is scratched before it is dry. The second coat without hair is then applied, care being taken to trowel it well in behind all wood finish, which should be rebated for this purpose in advance, and all horizontal meetings of wood and plaster must be metal flashed. The third coat is usually diluted to the consistency of thick cream and thrown on with a paddle, after which it is allowed to dry without being touched. Small pebbles are often mixed in this last coat to produce a rough texture, but the roughness of the surface is more easily governed by the viscosity of the mortar. A thick mixture dries out very rough, while a more liquid mass makes a smoother wall. It is a common practice to mix coloring matter in the last coat. Only mineral colors should be used, as any other will be vitiated by the action of the lime and sun. We may also get our color by washing it on after the wall is finished, especially prepared colors being sold for this purpose, which give the added advantage of waterproofing the wall.

This plaster coating when finished is somewhat more than an inch thick, and is not only fireproof, but makes an excellent non-conductor of heat and cold. Vines may be allowed to cling against it without harm; it requires no care, and should be in itself practically everlasting.

A better method of building a concrete wall is to apply our plaster as above directly on a wall of hollow terra-cotta blocks. These are made for the purpose with roughened faces to provide the necessary clinch for the plaster both inside and out. We have, then, a fireproof masonry wall with no danger of settlement and its consequent cracks, and with dead air spaces for insulation. Or we may use concrete or brick walls, provided we take care that the surfaces are left so that the plaster may get the necessary physical grip, plaster having no adhesive qualities of its own.

We might also speak of the concrete blocks, of terra-cotta blocks untouched, of tile, of half timber; but we have examined the most common methods, and the others are only modifications of them.

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Winter Don'ts for Hens

DON'T let her wade in the snow and cold mud so that her comb and feet freeze, or let her roost where the snow and sleet drive in and give her colds and rheumatism. On the other hand, quarters that are too close, lacking in ventilation, are just as ruinous. Too much glass in the hen house is inadvisable. Hens need both fresh air and an even temperature. With every third window removed and the opening covered snugly with close burlap or unbleached muslin, an even temperature can be maintained.

Don't house the hen so early in the evening and turn her from the roosting quarters so late in the morning that she sits around instead of exercising. Sitting around renders her organs inactive and non-productive. For stormy days and the times when she is turned out late, a scratching shed should be provided.

Don't feed her on a corn ration alone. She becomes fat, inactive, with a torpid liver, unhealthy in general, and egg production is impossible. Small grain in the scratching-shed for the morning meal; a warm mash of two quarts of bran, one quart of corn chop and one quart clover or alfalfa, with chopped vegetables, a handful of oil meal and a light sprinkling of salt, mixed with skim milk or water, for the noon meal; cracked or whole corn and wheat in the scratching-shed in the evening will promote egg production.

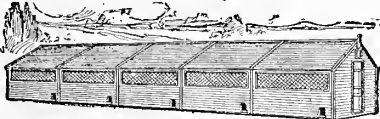
Don't let any cabbage or other roots go to waste; in fact, it is quite worth while to raise them especially for the hens. Tie a stout string round the roots of several cabbages and tie them up in the hen house so that the hens can just reach them nicely.

It is surprising how hens will eat silage, even early in the fall while there is yet some green clover and grass to be found. For the poultry raiser who is not a farmer, or who has no silo, it will pay to make a small one for the hens. This should not be over 3½ feet in diameter and 12 feet deep. The underground silo has proven most desirable, since it does not freeze. One poultry raiser has used an old cistern with success. If made of concrete they should be half in ground and half above. Cut the silage very small, not over half an inch in length. Feed at least 2 inches off the top each day.

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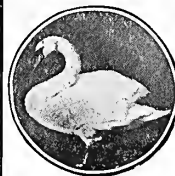


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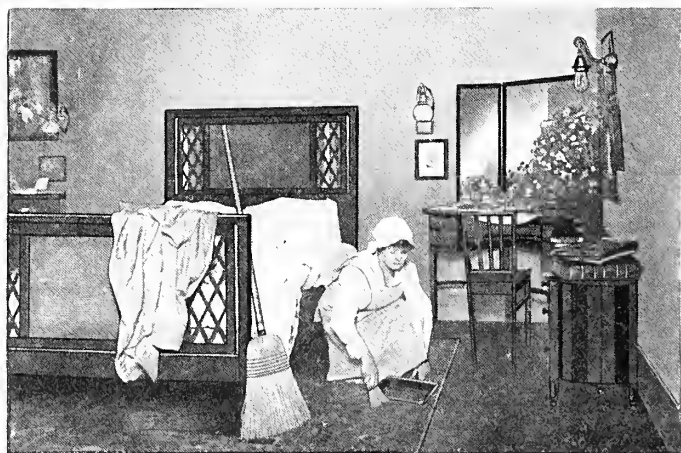
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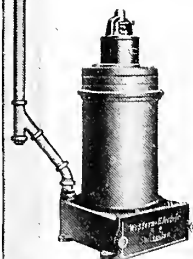
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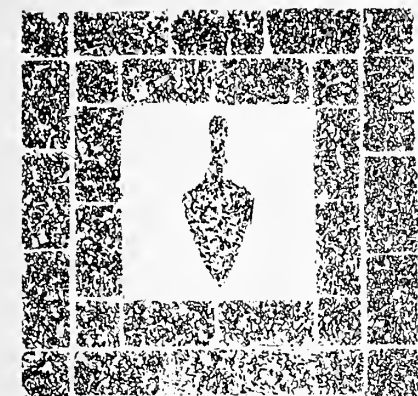
Be just as particular about cleaning methods as you are about your plumbing. A vacuum cleaner is good health insurance.



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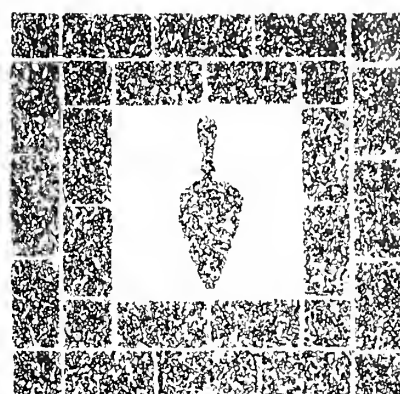
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House & Garden

*Building
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*January
1945*

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RICHARDSON WRIGHT
Managing Editor

McBRIDE, NAST & CO., - - - Union Square, North, New York

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The crucial point in the design of any Dutch house lies in the treatment of the roof. In this house at Englewood a single very wide dormer takes in three rooms in the interior, and is roofed by a continuation of the upper slope, the edge being faced with a cornice relieved by small brackets placed each side of the window



House & Garden

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VOL. XXVII—No. 1

JANUARY, 1915



No. 1.—An informal, balanced type, with a suggestion of the Colonial feeling in the detail of the eaves and windows. It is essentially a white house, having outside walls of stucco. The arrangement of generous-sized rooms makes it the type of house for a growing family

Your Type of Country House

A VARIETY OF SUGGESTIONS BASED ON THE REQUIREMENTS OF THE TWO PERSONS CONCERNED: THE FAMILY, ITS NEEDS, INCLINATIONS AND PURSE; THE ARCHITECT, HIS RESTRICTIONS AND OPPORTUNITIES—THE PRICES RANGE FROM \$5,000 TO \$30,000

CALVIN KIESSLING

SINCE the more general diffusion, among the home-building public of moderate means, of such knowledge of architectural types as Colonial, Modern English, Half Timber, Italian and Spanish Mission, it resolves itself upon you and your architect of to-day, even more than heretofore, to give careful consideration to the following five determining factors:

Location and nature of site and environment.

Size of family and number of servants (if any) and social inclinations and demands, determining the size and number of rooms and baths.

Amount of proposed expenditure determining the type of construction, whether of brick, tile, wood, stucco or stone.

Inclination in furnishings determining nature of interior wood finish, whether painted or stained hardwood.

Types of windows, whether sliding or swinging, large or small lights of glass, or leaded glass in metal sash.

Only by assimilating all that is predominant in the above factors in your problem can a happy determination of your type of

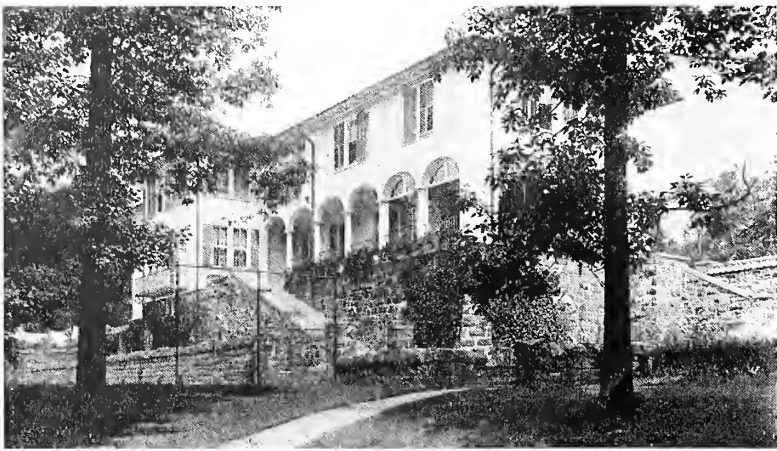
house be made, for the design must harmonize to be a fitting type.

The site, regular or irregular, coupled with the often very positive inclination for either lighter painted or darker stained interior woodwork, are often the most determining factors.

It may even become evident that the distinct type of house favored does not prove to fit after the above analysis has been thoroughly sensed by you and your architect. This, however, should only go to show that, generally speaking, the enumerated specific types assert themselves only in the various modified forms of each so-called type, and then only become a house that is a home truly fitting for our American life and environment.

The plan here is simply to show types, giving their possible substitutes in building materials, so that the reader can visualize for himself the kind of country house best fitted to his needs, inclination and purse:

1. An informal, balanced type, with a suggestion of the Colonial feeling in the detail of the eaves and windows. It is essen-



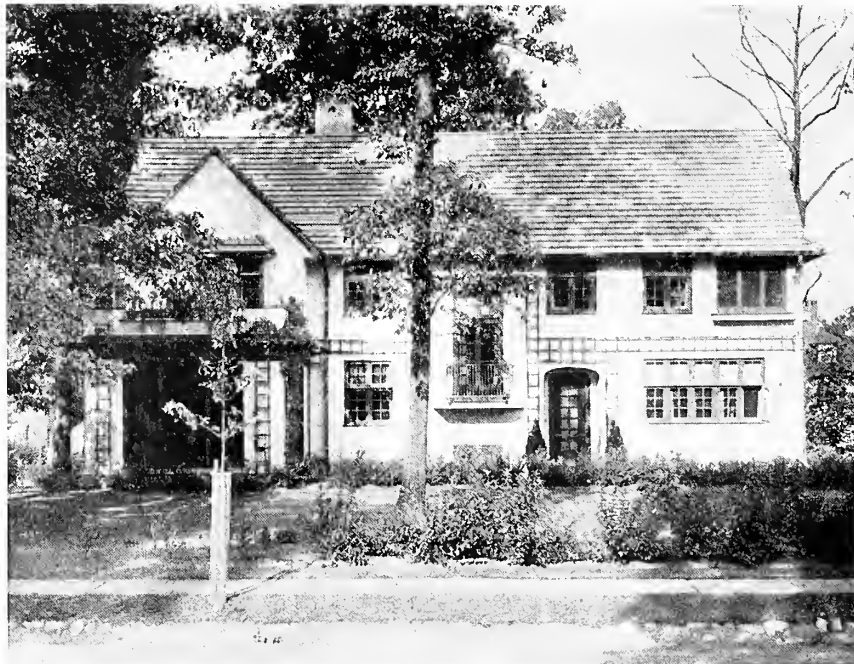
No. 2.—A house on a hillside planned along Italian lines, a type permitting an irregular arrangement of rooms



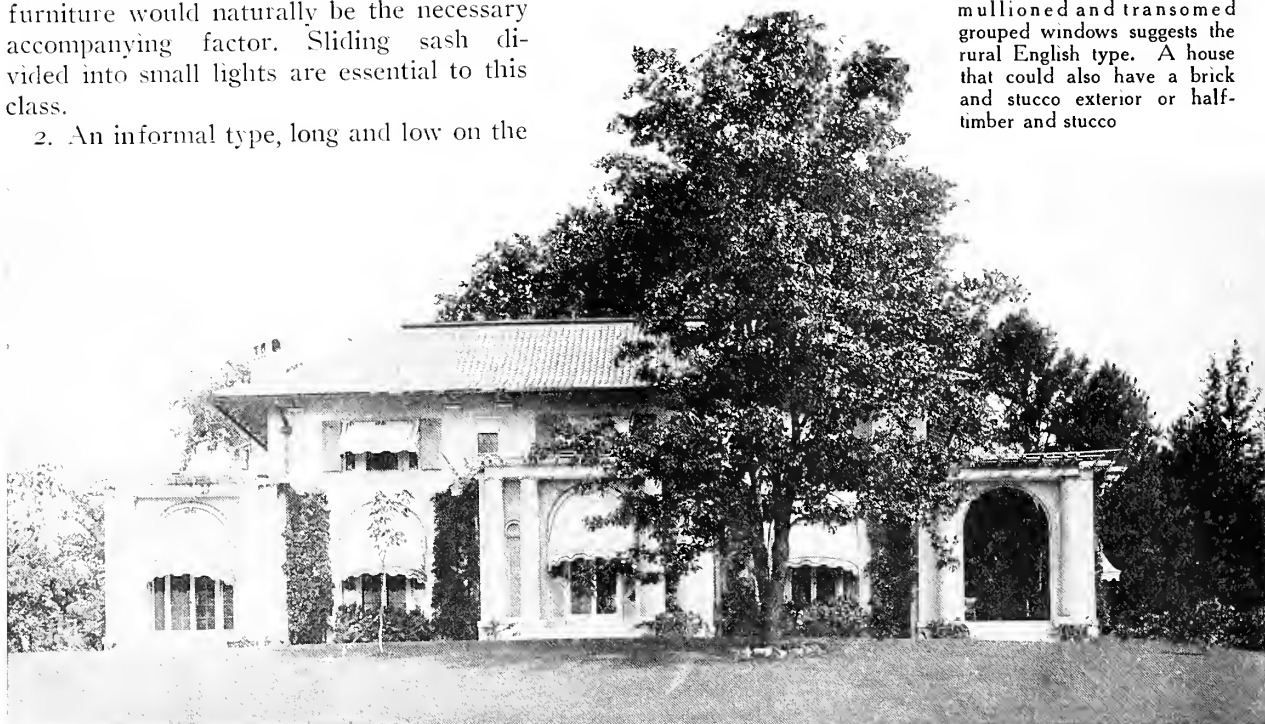
No. 3.—An unbalanced formal type of white stucco. The interior arrangement shows rooms at different levels

tially a white house having outside walls of stucco, relieved by the application of trellis, as in this case, or of wide, coursed shingles painted white, with green blinds and green-purple, variegated slate or shingle roof as the dictates of initial cost might determine. A formal grass terrace and open lawns are requisite for its setting. Generous-sized living-rooms and enclosed porches on the ground floor obtain numerous bedrooms and sleeping porches on the second floor, affording all the requirements for the comforts of a growing family. White painted interior finish suiting the use of mahogany furniture would naturally be the necessary accompanying factor. Sliding sash divided into small lights are essential to this class.

2. An informal type, long and low on the



No. 4.—The general use of mullioned and transomed grouped windows suggests the rural English type. A house that could also have a brick and stucco exterior or half-timber and stucco



No. 5.—Distinctly a house adapted for hospitality and social functions—formal, balanced, of magnificent proportions. The large arch window group in the first story intimates an arrangement of large rooms with high ceilings

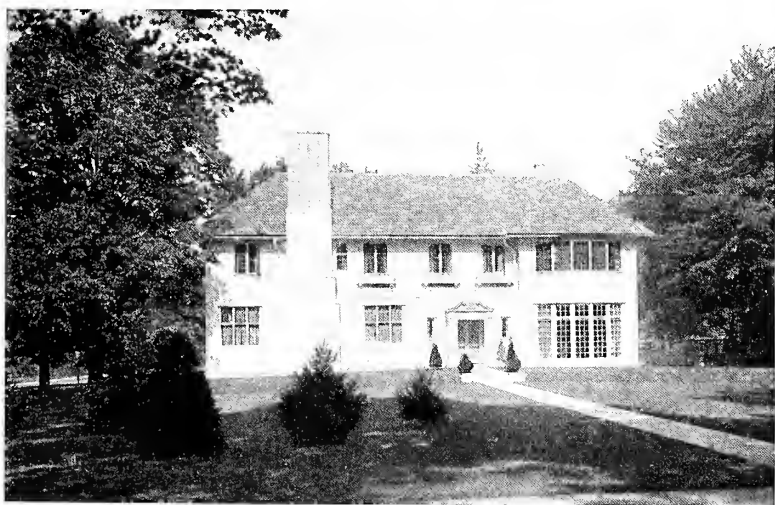
front and well set upon stone walls and terraces on the garden side, echoing the Italian country villa in its arched loggia, white stucco walls, overhanging eaves and red tile roof. A wooded and picturesquely irregular hillside slope affording an open level approach on the front, forms the site. This type permits of the irregular plan arrangement in the disposition of its principal rooms and the use of stained interior wood finish suiting the inclination of rich wall coverings and oak or walnut furniture. Either sliding or swinging sash divided into fairly large lights are in order.

3. An unbalanced, formal type of white stucco house with tobacco-brown blinds and shingle roof, which by its simple mass classical entrance and flanking arched loggia, is probably more reminiscent of the Italian than of any other style. All this is adjusted to an irregular, densely wooded hillside by a stepped terrace at entrance and a garden outside of the loggia. Here the design suggests that the principal rooms are at different levels, affording interest in their relation to one another. Stained-wood finish, together with painted finish, are equally possible and fitting.

4. An informal type,



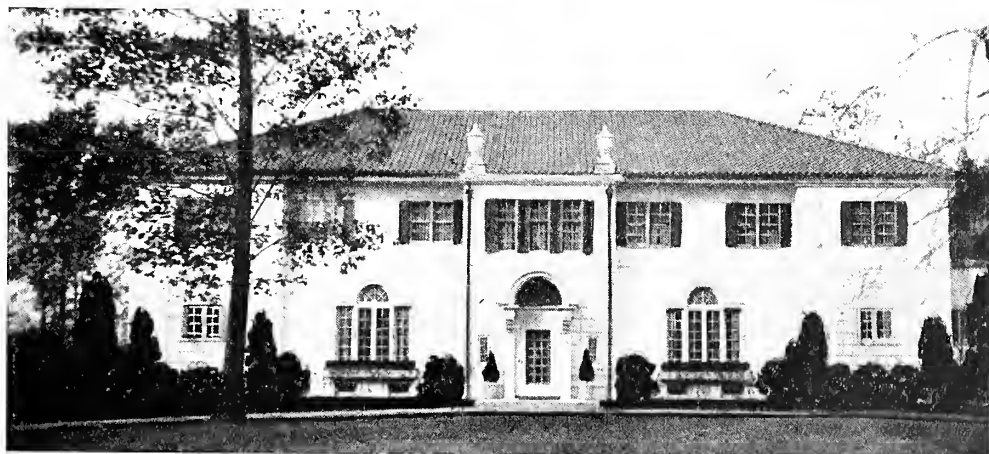
No. 6.—In plan, the second story of this house affords maximum bedroom accommodations, well suited to the needs and comforts of a growing family. Instead of white stucco for the exterior, shingles, clapboard or red brick could be used with variations in the cost



No. 7.—A type adaptable to a level grass terrace, Modern English in design and commodious throughout



No. 8.—With equal effectiveness, this house could be built of white siding or shingles or all red brick



No. 9.—Another instance where a wood exterior would give the same general effect and yet preserve the formal Italian lines—a house that depends greatly upon its garden setting

with white stucco exterior and green, stained chestnut wood trim and sash having a simple, unbroken roof covered with dull-glazed tile. The general use of mulioned and transomed grouped windows suggests the rural English type. A site practically level, interspersed with large trees, forms a happy setting for this type. This is one that could,

on the same lines, have an exterior of brick and stucco or half timber and stucco, and fit this particular site. In any case, an interior of stained woodwork would be consistent for the principal rooms.

5. A formal, balanced type of magnificent proportions, a distinctly white stucco house, with a green
(Cont. on page 60)

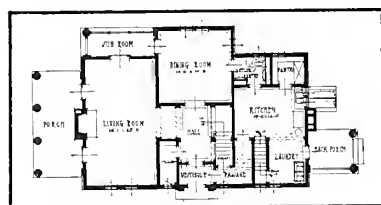
Possible Types for Smaller Suburban Houses on Open General Level Sites Having 100 to 150 Feet Frontage



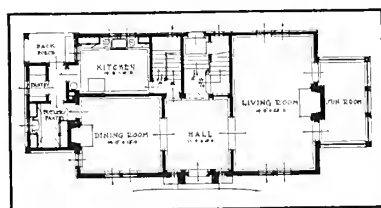
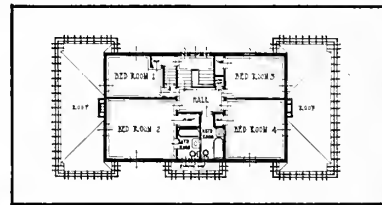
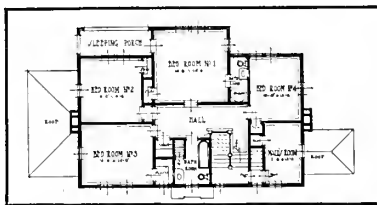
No. 10.—A simple, small stucco type, with tile roof and relieved by well-detailed entrance, flower boxes and balanced side porches



No. 11.—The arch motif lends an effect of height in the first story—the type permitting inexpensive development



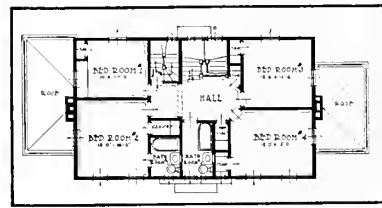
(a) Possible types for smaller suburban houses on open level sites



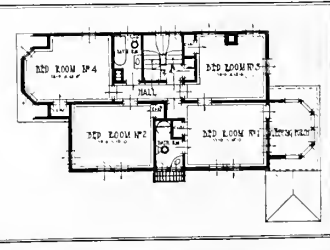
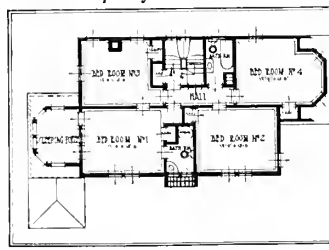
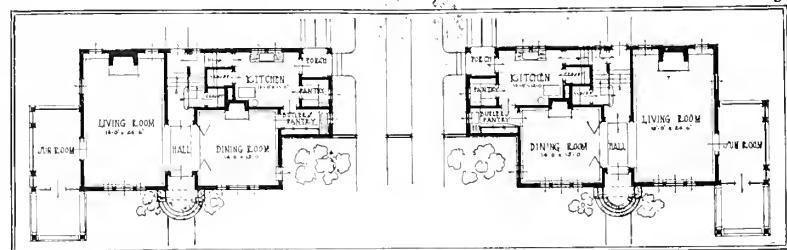
(c) The openness of this first floor plan of the Colonial house gives an idea of its roominess



No. 12.—Attic space in this Colonial type gives added bedroom accommodation. Red brick or white shingles would be equally effective



(d) Irregularity of the staircase hall proves attractive on this second floor arrangement



No. 13.—An irregular, simple, white shingle type, with green roof and blinds to match—see plans above



No. 14.—A reverse of the picture shows how service departments should be adjacent when houses are near together

The Choice of Domestic Hardware

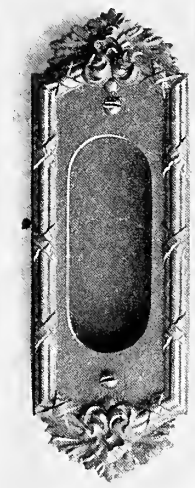
ITS DECORATIVE VALUE WHEN PROPERLY PLACED—SOME GUIDES TO CHOOSING THE RIGHT KINDS—HOW TO KEEP IT IN GOOD ORDER

JAMES P. THURSTON

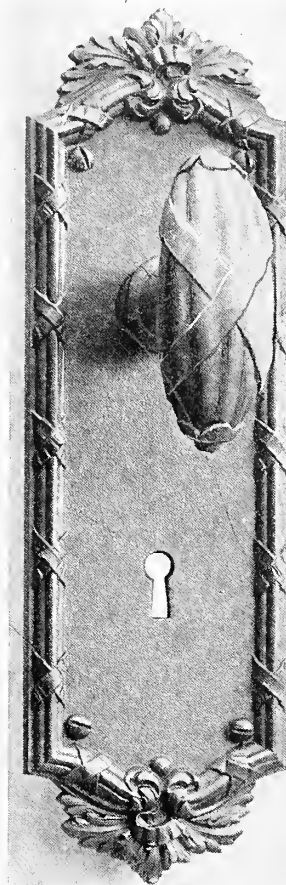
HARDWARE is the jewelry of the house fabric. Under ordinary circumstances its pattern and choice are governed by the same principles that govern the jewelry of a gentleman: it must be simple, of excellent design and utilitarian. If the jewelry is other than that, the chances are that it is a little outward indication that the gentleman is but a "gent," and if the hardware departs from the foregoing standard we may generally expect either ostentation or meaningless eccentricity.

Hardware mounts or fittings are required for doors, shutters, casements, closets, cupboards, drawers and various other sorts of built-in furniture. Lighting fixtures are purposely excluded from this list, as they are dealt with elsewhere. The usual materials of which domestic hardware may be made are brass, bronze, iron and glass.

Brass hardware is finished plain, with lacquer or with a mat surface. Of these methods of finishing, only the first can be conscientiously recom-



A window lift of distinction for a French room

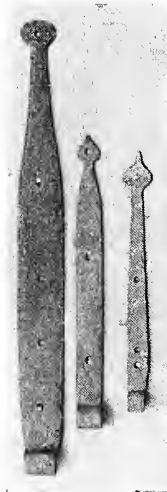


Suitable for a Louis XVI reception room or library

true, require more attention, but its beauty, attested by the old brasses of Holland, fully compensates for the labor involved in keeping it in good condition.

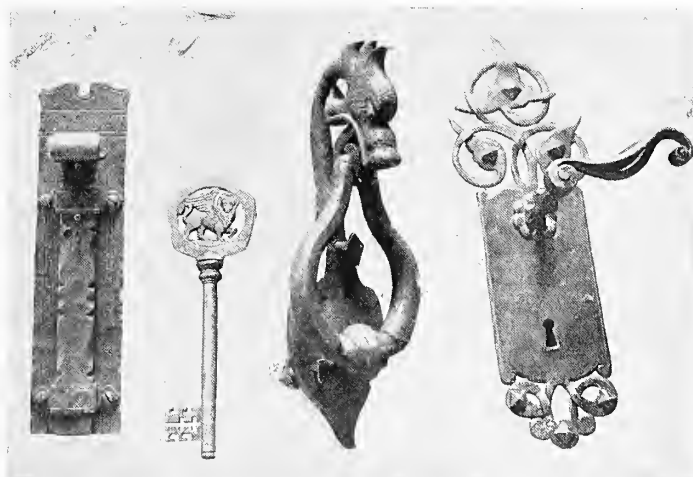
Bronze ordinarily does not require polishing, and is almost always better looking when left to the action of the atmosphere and ordinary wear. Any finishing preparation applied is apt to spoil the color and destroy the lively quality of the metal. The scope for the appropriate use of bronze hardware of any kind is extremely limited, and it is apt to look out of place unless its accompaniments are of great elegance and exactly suited to it. As a substitute for brass under ordinary conditions it is not desirable.

Wrought iron hardware may be given either a black or a bright finish. There are several ways in which the black finish may be applied. The metal may be painted with a mixture of lampblack and banana oil. This is easy to apply, dries quickly and leaves a smooth, dull black surface of agreeable quality. Then again, black Japan paint may be used. This also



Old Dutch door hinges suitable in a Colonial house

mended for universal use and permanent satisfaction. A lacquer finish may prove a labor saver for a time, but there are two objections to it: it gives the brass a bad, unnatural color, and, after dampness or wear has once begun to streak it with black lines or patches, nothing will redeem its appearance, and brass polish only makes it worse. A matt surface may do well enough in certain cases, but it never responds to a little well-directed effort like a plain brass surface, which is always full of vitality and susceptible of a high polish. It does, it is



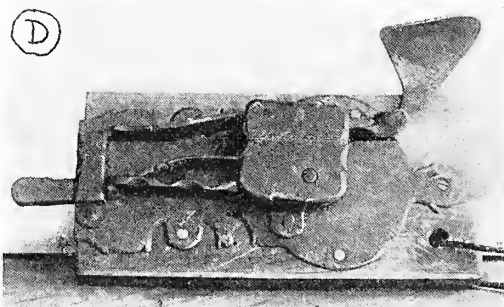
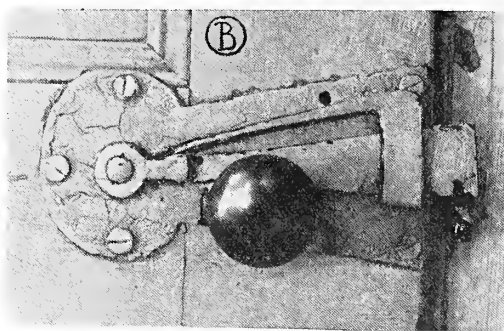
Four examples of modern hardware proving how hardware can be the jewelry of the house

dries quickly and is particularly satisfactory in taking a tight hold upon a metal surface. Another preparation is especially compounded by some of the finer iron workers, and is baked on the metal upon the forge. It is extremely durable and of such thin body that it does not clog up nor obscure any finely engraved lines of decoration on the surface of the ironwork. Finally, ordinary black paint may be used satisfactorily on some of the coarser hardware, though the previously mentioned preparations are preferable, and even cheap, cast iron fittings may be made fairly presentable by this means.

The finer wrought iron hardware, such as keyplates, locks, keys, knockers, and decorative hinges may also be given a pleasing and durable bright finish which can be kept in perfectly good condition with a very little attention once in every three or four months. This applies to both exterior and interior hardware, for the metal is given a preservative treatment before leaving the shop of the craftsman, which ensures its brightness with a minimum of care. The only thing necessary is to apply a little of the mixture, which the craftsman can supply, at the intervals mentioned. In this way the wrought iron surface can be maintained with the lustre and gleam of burnished steel or old silver.

Glass knobs must be reckoned in the catalogue of available domestic hardware and find their appropriate place on doors and on various kinds of built-in furniture. They must be mounted in metal or fastened in place by pins or bars running through their center. It is preferable to have these metal mounts of nickel or some material that will not require frequent polishing, otherwise the polishing compound is apt to get in the crevices of the pressed or cut glass and necessitate troublesome washing.

The choice of domestic hardware should be based on two prime considerations — first, practical utility, and second, beauty and fitness of design for the place and surroundings in which it is to be used. Other things being equal, it stands to reason that the preference ought to be given the hardware that combines both desirable qualities rather than to that which is merely utilitarian. The great



Though crude, the Colonial hardware was serviceable. (a) A Pennsylvania doorknocker; (b) a Dutch door latch with brass handle; (c) a Dutch thumb latch; (d) a Pennsylvania Dutch door latch

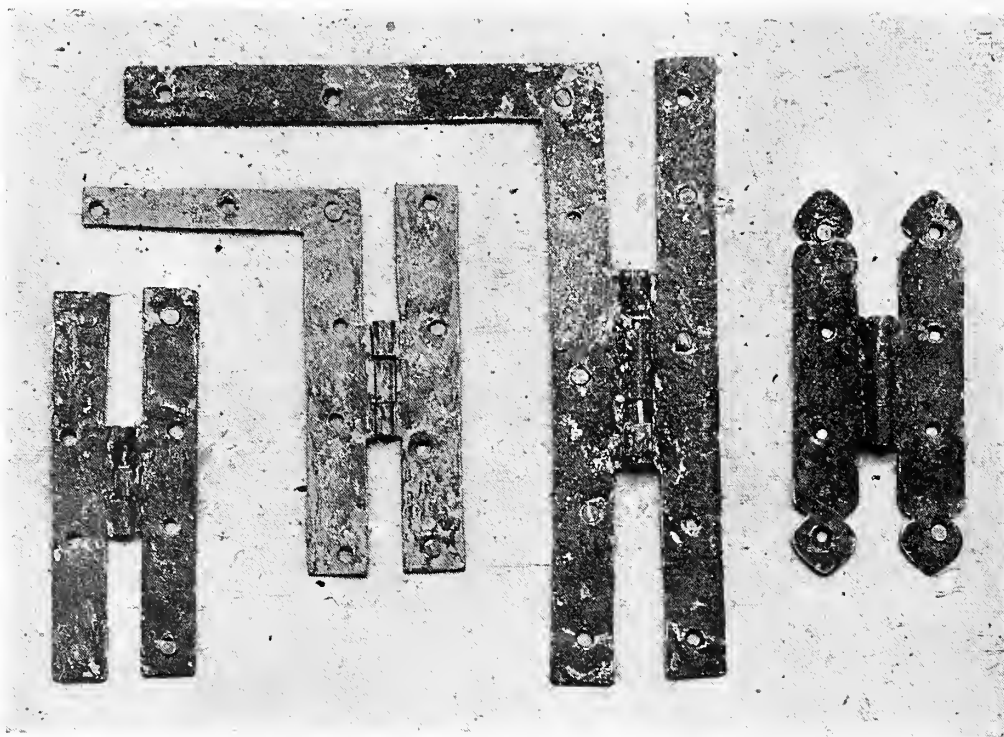
trouble is that most people do not pay enough heed to the selection of hardware. They are too apt to ignore it unless some individual piece is out of order and causes them inconvenience. It is one of the little niceties, one of the small refinements of architectural fittings, that the average mind, with its custom-

ary carelessness of minute detail and indifference to the valuable habit of close observation, passes by without concern.

A piece of hardware should perform perfectly the function for which it is designed. A latch that does not latch tight; a lock that refuses to work with-

out humoring, or a hinge that wobbles and lets a door sag, can only be condemned as bad. In the second place, the purpose of hardware should be obvious, and it should be of simple construction and easy to use. It seems as though this ought almost to go without saying, but the writer has occasionally encountered various devices that did not meet these requirements, some of baffling appearance until their method of working was explained, and others that were not easy to manipulate. Closely akin to this last-mentioned essential in good hardware is the reasonable demand that it be comfortable to handle. Knobs, handles, latches, bolts,

and all other pieces of hardware with which the hand must come in contact, should be so placed and of such dimensions that they are convenient and agreeable to use. Some knobs and door pulls, though satisfactory in appearance, are of shapes and dimensions that make them unpleasant to the hand, and they are now and then so set that they throw the hand or arm into an unnatural position. A



For certain types of houses, the sturdy lines and simplicity of early Dutch Colonial farmhouse hardware is unexcelled, as witness these examples of inside door hinges



The latch plate of Colonial days had genuine decorative value

fourth essential of good hardware is that it should not be obtrusive in shape or size with parts that stick out and are liable to hurt people or catch and tear their clothing. Lastly, all hardware should be well made and substantial and capable of withstanding usage.

Having established a standard by which to measure utility in choosing domestic hardware, it remains to say a few words about the decorative capacity, which ought to be considered concurrently. It is of the first importance to observe the principle of architectural congruity and see that the hardware fittings are in keeping with the style of the objects upon which they are to be used. Such observance leaves wide liberty with regard to either simplicity or elaboration. While elaboration is perfectly permissible for the sake of an occasional

spot of enrichment, anything fantastic or whimsical should be avoided, for it will soon lose its interest. In nine cases out of ten, rigid restraint and simplicity of design are preferable. Above all else, let every decorative piece of hardware have an obviously useful function as well. Do not, for example, have conspicuous strap hinges extending across the width of a door when in reality the door is hung on butt hinges which are practically invisible. In such a case the hingeless straps are merely a piece of meaningless, faddish and dishonest ostentation, their presence is a palpable deception and their use is indefensible from the points of view of ethics, common sense and architectural propriety. If there is an ornate key plate or escutcheon on a door, let it be there for a *bona fide* keyhole, and not for the embellishment of a dummy keyhole that is not used. If a chest has great strap hinges extending across the lid, let them be genuine and let the lid depend upon them. The use of sham hinges and other fittings is a detestable piece of material insincerity. So much for general principles.

For the sake of a concrete example in choosing hardware, let us take a door, for that is the most usual object of hardware fittings. If it is a Colonial door of either batten or panel type, both box-lock and bolts will be appropriate. A box-lock is one whose mechanism is enclosed in a flat box attached to the inner surface of the door. A mortise-lock, on the other hand, is entirely enclosed within a mortise or cavity cut in the stile—usually at the junction of the stile and middle rail—of the door. The black color of the box-lock and bolts forms an agreeable contrast to the white of

the door, so that such fittings, even though perfectly plain, are decorative as well as utilitarian. On such a door one will expect also to find stout strap hinges, which may be either quite plain or wrought with a degree of elaboration.

With the door of Georgian type, the box-lock and bolts are still in order, while large strap hinges, except sometimes for outside doors, are not so often found. Doors within the house in both the Colonial and Georgian styles not infrequently have angle hinges such as those shown in one of the illustrations. During the Georgian period, however, there is a growing tendency to hang doors on butt hinges which are practically invisible. About the beginning of the Nineteenth Century, doors, both outer and inner, were commonly made of sufficient thickness to admit of using mortise locks, and the use of box-locks was merely a matter of preference, and not a matter of necessity, as it had been when inside doors were usually too thin for a mortise to be cut in them. There is no practical objection to the box-locks other than the dislike some people have of any projection that can be avoided, however slight, from the surface of a door or door-frame. Where box-lock and latch are combined there is the additional decorative possibility of a bright brass knob. Along with mortise locks came knobs, on the doors of the better kind, of metal-mounted glass or painted porcelain, as well as brass. Where box-lock and latch are separate, as they frequently are on early doors, the latch-grasp is susceptible of interesting treatment.

With the modern door, thanks to our eclecticism and cosmopolitan mixture of architectural types, almost any style of hardware may be appropriately used so long as it meets with the requirements previously noted and accords with the general surrounding treatment. The tendency towards concealing hardware that really began with the appearance of the butt hinge and

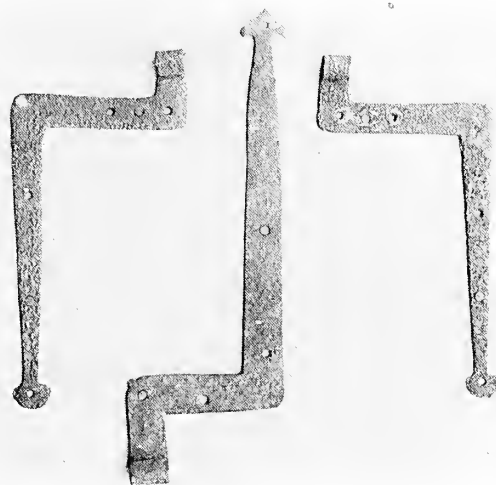
the mortise lock has reached its full development in the various invisible doorsprings, door checks, and the like, concealed in the floor and elsewhere. These fittings are excellent and eminently useful, but are practically incapable of any decorative treatment, and are therefore much better out of sight.

From the few instances noted in connection with the door one may gather the somewhat analytical way in which

(Continued on page 59)

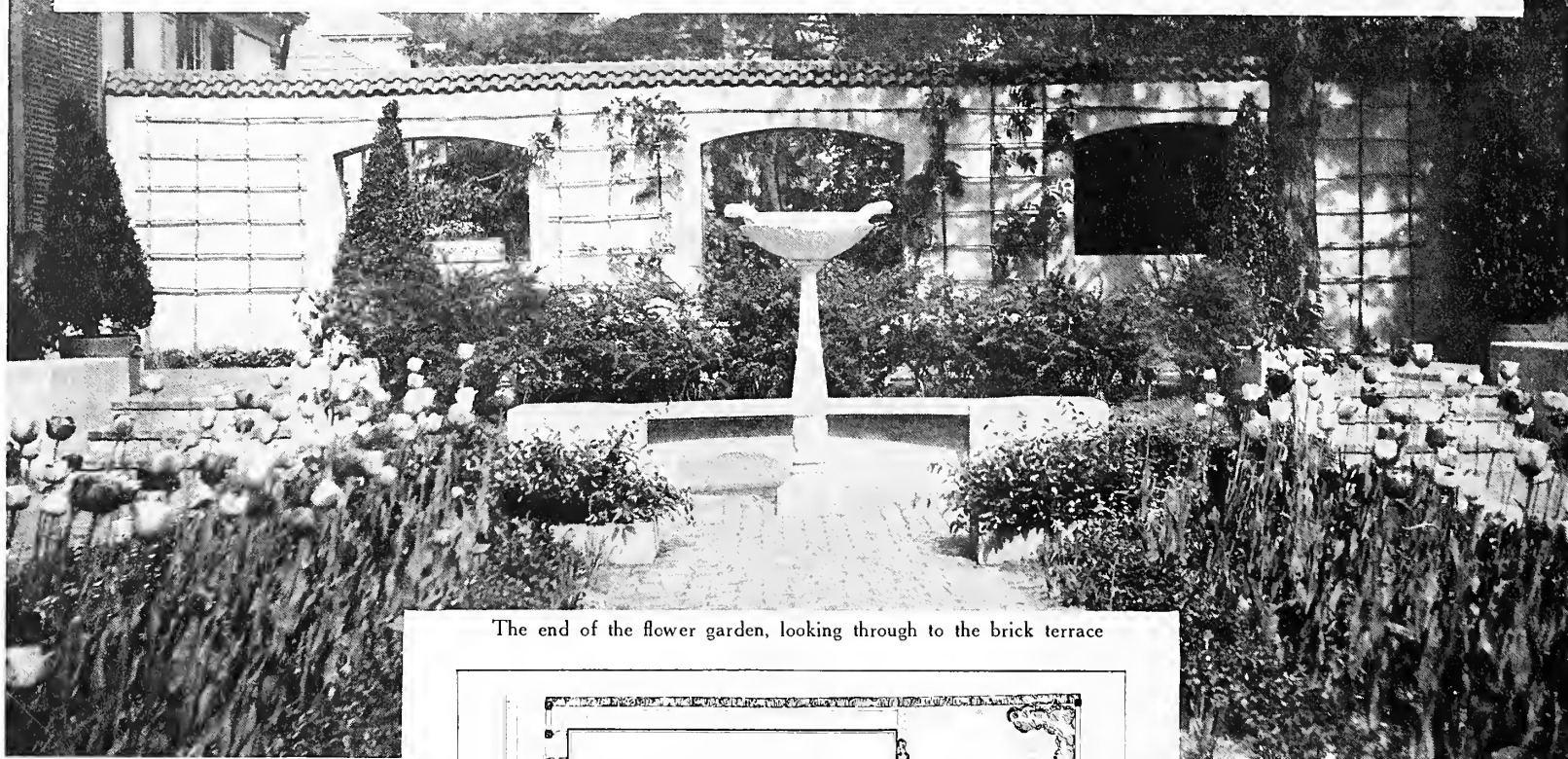


On the door-knocker was expended, and should be expended, much artistic work



Modern shutter hinges can readily be designed after such models as these from an early Dutch house

Landscape Gardening on a Small Place

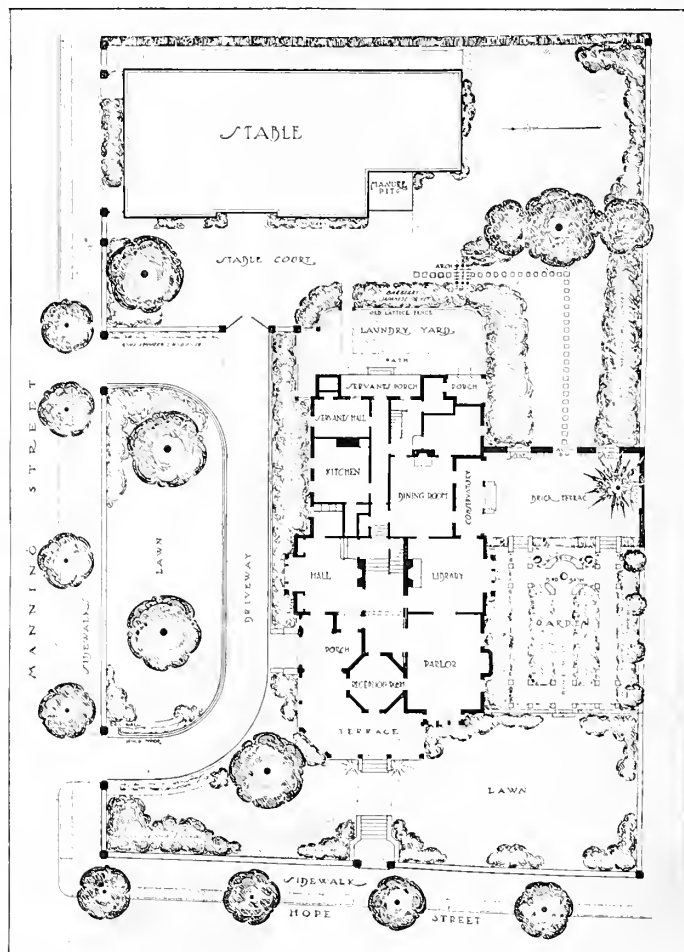


The end of the flower garden, looking through to the brick terrace

THIS story about a city lot 140 by 209 feet, where the house is placed in the very center of the property, illustrates what comprehensive use can be made of a small piece of ground. There is a drive on the north side which passes by the entrance porch. On the east a shrubbery-bordered lawn makes a pleasant outlook for the living-room. On the south the conservatory leads to the terrace and to the flower garden. On the west, back of the house, is the laundry yard, and next to it is the stable court, which connects with the drive again. Privacy and seclusion were obtained in the very midst of the city by building a wall around the entire property.

The house is open only from September until June, and it is during this time that the grounds can be enjoyed by the family. For this reason the planting is so chosen and arranged that it will produce its best effects during the late fall, winter and early spring. There are late autumn flowers and shrubs with brilliant foliage. There are evergreens and shrubs with berries and gay-colored stems. There are bulbs and early flowering shrubs. These give abundant green and bright color to the city garden during the cold seasons of the year.

The drive was made as practical as possible. It runs parallel



Compactness and effective simplicity characterize this plan of Sibly C. Smith, the landscape architect

A CITY PROPERTY IN PROVIDENCE, PLANTED MAINLY FOR WINTER EFFECTS

ELSA REHMANN

to the house and turns abruptly with short curves to the two entrance gates. Its shape fits the ground, and the rising slope of the street and the two gateways make easy the entrance and departure of vehicles. The door of the stable, placed on the axis of the straight part of the drive, connects the stable, front door and street.

It is here that the initial impression of the grounds and house is received. The planting has been carefully considered in order to obtain at the very beginning a certain distinction characteristic of the entire place. An old beech tree with spreading branches dominates this part of the grounds. In its deep shade many woody plants like ferns, Solomon seal, Uvularia and violets make a ground cover where the grass will not grow. The driveway is bordered by planting strips. On the one side myrtle is planted near the entrance, then ivy, and near the exit a group of fragrant bush-honeysuckles. Along the wall in back of this strip are Regel's privets in scattered groups. On the other side of the drive, near the entrance, are euonymus, fragrant sumac, pachysandra and ivy with hemlocks, forsythias and dogwoods against the wall in back of them. Along the house the planting is principally of

rhododendrons. It is interesting that these rhododendrons which did poorly in their original position on the south side of the house flourish on the north side. They dislike excessive sunlight, but enjoy the more even temperature of the shade. Now they withstand every winter without any protection except a mulch around the roots. They look particularly well in contrast to all the neighboring rhododendron beds, which are tied up in their coverings of evergreen boughs at the first approach of cold weather. *Leucothoe*, *pachysandra*, ferns, ivy and yellow root make a foreground planting for the rhododendrons. Along the wall of the service court fragrant sumac and asters are planted, and *Ampelopsis engelmanni*, which has clinging suckers like the Boston ivy and a free-growing habit like the Virginia creeper, clings over wall and posts.

All the plants on the drive endure northern exposures and shady positions. It is a planting composed mainly of evergreens. To the exclusion of all stiff specimen conifers, broad-leaved varieties have been used. The decorative effectiveness of evergreen planting depends as much on the nicety with which the different varieties are combined as on the selection of the material. It is a planting chosen principally for its fine foliage effects. The lasting green of myrtle and ivy, hemlock, euonymus and pachysandra, the almost evergreen foliage of the fragrant honeysuckles, and the glossy leafage of the rhododendrons give a splendid winter effect. Against these are contrasted the *leucothoe*, when its fo-

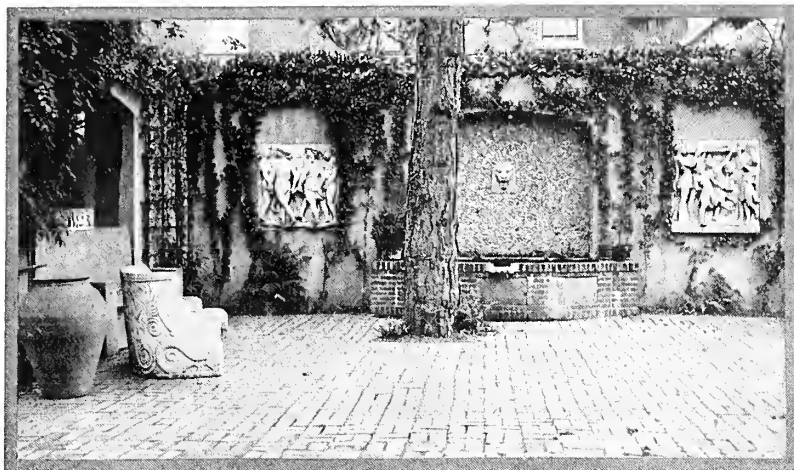
liage turns a deep red in the autumn, and the brilliant fall color of the yellow root and fragrant sumac.

From the drive we can pass to the lawn, a little place, quite private and secluded, six feet above the sidewalk. The wall around it has done away with the original steep grass slope, which was never good to look at and very difficult to keep in order. By the building of this retaining wall several feet were added to the width of the lawn, a desirable economy of floor space for a small piece of ground.

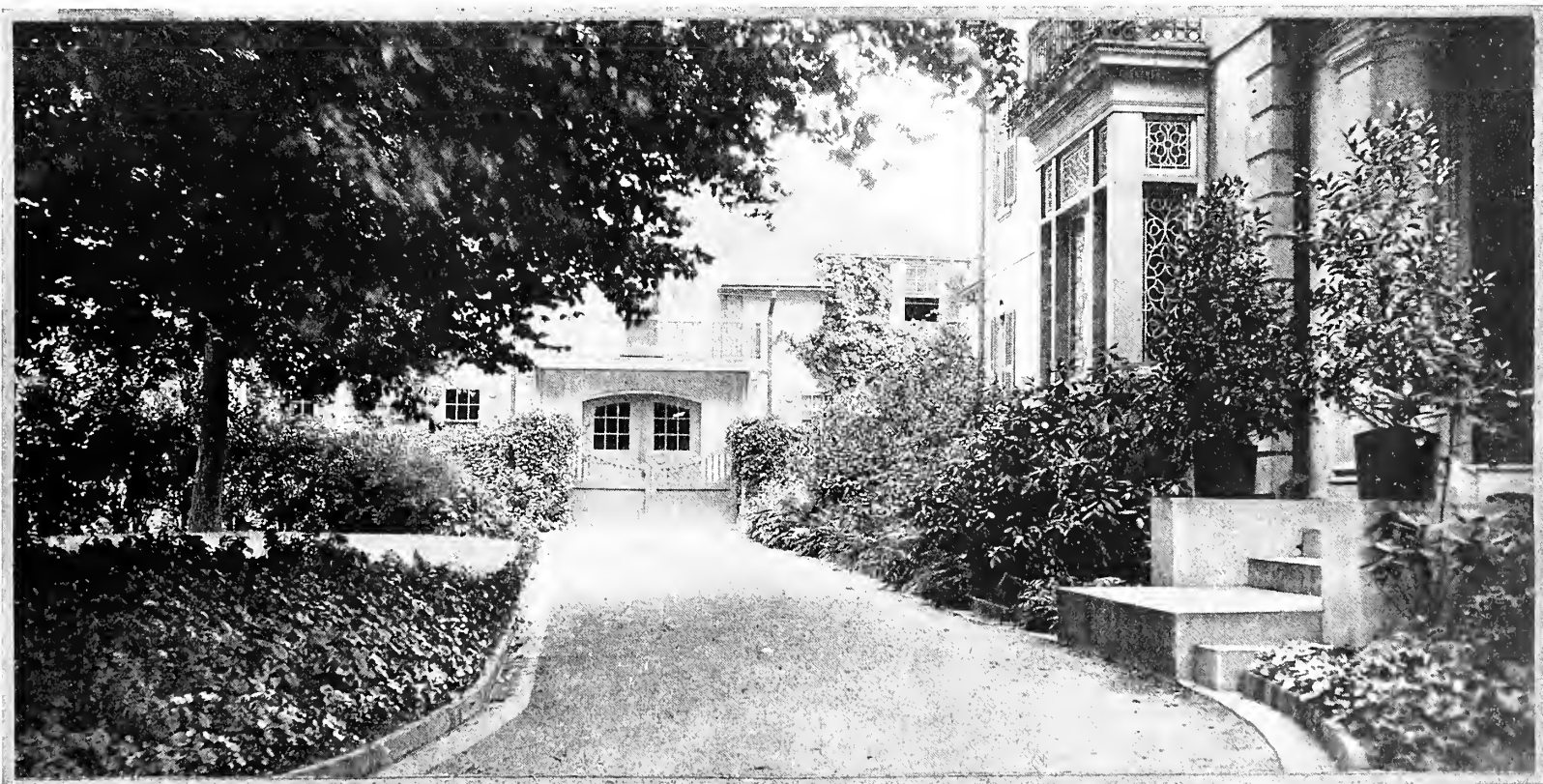
The shrubbery planted along the front wall is not put in a continuous border. With economy of space in mind and with a feeling for a rather delicate effect, the familiar Van Houtte spiraeas, Regel's privets and hemlocks are planted in groups at intervals, allowing the wall

to show between. Regel's privet and hemlock have a sweeping habit of branching, very desirable in the shrubbery for lawn enclosures. They provide a winter contrast of black berries against evergreen boughs. There are Japanese quinces planted near the house for early spring bloom and *Rosa multiflora* climbing over the wall has bright hips for autumn effect.

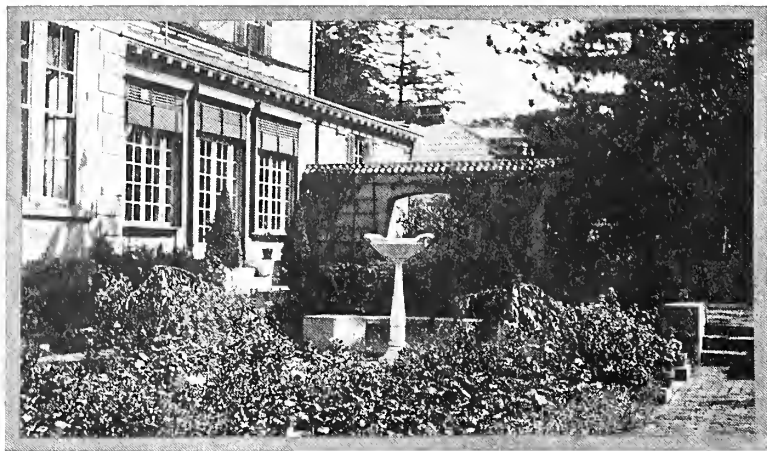
From the lawn we can enter the flower garden. It is quite a marvelous little place. In considering all that has been done in it, it is really worth while noticing that its size is only 35 by 45 feet. Its slightly raised position above the front lawn and its sunken position in relation to the terrace give it the change of level to which so many gardens owe a great part of their charm.



A brick-paved terrace with walls ivy-grown, the panels relieved by a fountain flanked with Della Robbia casts—a good background and a factor for winter effects



The drive was made as practical as possible. It runs parallel to the house, turning abruptly, with two short curves to the entrance gates. An old beech dominates this section, and all the plants have been chosen to endure a northern exposure, broad-leaf conifers showing well when the rhododendrons are in winter covering



The conservatory faces the end of the flower garden, where formal garden architecture harmonizes with the lines of the house



Here the termination of the crosswise view ends where the paneled wall and flower bank cut off the street

Part of the charm also of this garden comes from its enclosure, from the walls which frame the two sides of the terrace, and even from the street trees. It also gets the benefit of the large pine on the terrace and of the old spruce in the back lawn.

The flower effects have been confined entirely to the spring and autumn months. In the spring the central beds are aglow with the more delicately colored varieties of Darwin tulips under-planted with forget-me-nots.

The side borders are filled with creamy white narcissus and *Fritillaria meleagris*, with a ground cover of pale lavender blue phlox stellaria. Delicate pinkish white Japanese anemones, replacing the tulips, in the central beds, begin the fall flowering. A mass of pale lavender asters with white and yellow snapdragons in the foreground fill the wall border, while yellow and maroon chrysanthemums along the house continue the flowering season until after the frost.

In the planting of a small garden striking seasonal effects can be obtained only through large masses of a very limited variety of plants. This does not exclude, however, the use of many different kinds of plants in small clumps. Many have been used in this garden, among them *Iris reticulata*, *Abelia rupestris*, *Lilium rubellum*, *Anemone blanda*, *Iris cristata*, *Crocus speciosus*, candytuft and Christmas rose. It is necessary, of course, to



Showing the three grades, the lawn itself six feet above the sidewalk, the flower garden and the bricked terrace beyond, each developed along a distinctive line for its seasonal effects

unity not to be overlooked, but strongly emphasized, in the small garden.

In the design of the garden every effort was made to make it attractive during the cold months of the year. The space saved through the elimination of all summer-blooming flowers has been used for a liberal planting of evergreens. Euonymus, kept closely clipped, forms borders around the central beds. Andromeda, laurel, pachysandra and the dainty daphne make a narrow shrubbery along the wall; Japanese yew, Japanese holly, azaleas and euonymus are planted along the house. This shrubbery gives a good color effect when in bloom. It makes a background for the flowers. It is especially valuable in giving a cheerful note to the garden in mid-winter.

A broad, brick-paved terrace adjoins the flower garden. In every detail of its planning is seen the desire to make it attractive during cold weather. It is warm and sunny and dry under foot. Its



Myrtle is planted near the entrance and a group of fragrant bush honeysuckle predominate the exit gate

(Continued on page 48)

Architect and Client

A STRAIGHTFORWARD EXPOSITION OF WHAT THE HOUSE BUILDER HAS TO EXPECT OF HIS ARCHITECT, AND WHAT HIS ARCHITECT IS TO EXPECT OF HIM

A. RAYMOND ELLIS

VERY little progress can be made without a lot to build on—lot in this instance meaning land. Be sure that the site has no underlying ledges or springs. Then consider the natural drainage, compass points, prevailing winds, views and trees, width of the street and sidewalk. If an independent water and sewage system is necessary, they must be placed to avoid contamination, and the source of the water supply examined, and a chemical analysis made to determine its purity.

The house should be planned and located on the lot so that the houses that may be built on either side of it in the future cannot be set too close or cut off its light or view. The building restrictions in your deed should cover this.

The plan of your house is somewhat a matter of personal taste and habit. Eccentric plans are not advisable for small houses. You may outgrow them, and then it is hard to find a purchaser with the same requirements.

There are certain well-known and proven schemes that will always work out to the best advantage for the average family. One of these is the Colonial plan: the front entrance door and hallway in the center, with the dining-room and kitchen on one side, and living-room and reception room on the other. Such a plan is regular in shape, less expensive and more easily built than a house with winding passages and ell with complicated roof lines. There are certain rooms that should be located with regard to the compass points; the dining-room on the east or southeast, to obtain the morning sun; the living-room face the south, southeast or west, or run east and west; the kitchen on a corner to obtain cross ventilation, while the halls and less important rooms occupy the space remaining. In country residences located upon main highways it is sometimes advisable to place the living-rooms at the rear to obtain privacy and an opportunity to develop the grounds with gardens and lawns. On small lots the rear outlook is usually on your neighbor's back yard. This you can control to a certain extent by planting hedges and growing vines on trellis work, thus planting out any objectionable features and screening others within your own property lines.

Styles in architecture are many and varied. In different sections of the country we find them adapted to the climatic conditions, topography, and the natural building products. Some architects think the style of the house should be governed by the contour of the land and surroundings. Usually there is some determining feature that is very apparent to the trained architect. A house built in the country surrounded with large trees should have strong and vigorous detail and heavy horizontal lines to contradict the vertical effect given by the trees. Near the seashore houses of rambling character are usually the most effective, while in flat, rolling country, a house of almost any type can be adapted, as it is governed by nothing except its neighbors. A great deal depends upon the roof of a house. It should usually be assertive enough to contradict any vertical lines, but not enough to be top-heavy. In New England we find many fine Colonial houses, mansions and farm houses with a wonderful charm to their simple detail, and about them an air of thrift. In the South, low and rambling, one-story houses and two-storied porticoed mansions, some with double-decked piazzas, suggestive of the lessening of activities and comfortable refuge from the heat. In the extreme Southwest, the old Spanish missions have furnished the motif for many interesting types that awaken a feeling of romance

and border warfare. Sprinkled through the country we also find Swiss chalets, English cottages with stucco and half-timbered gables, Italian villas and houses of German adaptation, and many very attractive ones of purely American origin that are indicative of the vastness and youth of our country and its mixed population.

If the lot is large enough so that a screen of trees can be interposed between two houses to prevent comparison, any type of house may be built, for its particular beauty of style can then be exhibited properly without clashing with its neighbor.

An architect who has studied the history of architecture and is familiar with the various styles does not produce monstrosities. He is particular to keep his designs in the style they belong, without making a *faux pas* of it.

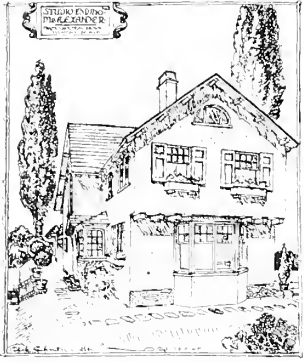
The architect's fee is usually six per cent. of the cost of the house, for the plans, drawn to a scale of one-quarter of an inch to the foot, the specifications, scale and full-size working details, supervision, plus traveling expenses to the work from his office and consultation fees for advice in connection with any unusual contingencies. It is not customary to charge more than the minimum rate of six per cent on the total cost of residential work, except for special cabinet work, decorations, special features and furniture, which are charged for at the rate of ten per cent. Alterations to existing buildings are usually taken at the rate of ten per cent. of their cost; and in cases where new buildings require many detailed drawings, as in the English type or Swiss chalets the commission charged is frequently eight and ten per cent.

The architect's first sketches are on thin paper, in pencil, which are revised at the client's suggestion, until finally approved by him. Then the working drawings are made, from which blueprints are taken; these are furnished to the contractors to estimate upon, and later for the men to build from.

The extent to which the success of a house depends upon the architect is seldom realized by the client, who soon forgets, once the house is started, the tedious hours the architect spent working out the plans and revising them until the minutest detail was provided for. With the complete working plans, the builder is able to execute the work properly and expeditiously. If he is a careful man he will employ a careful foreman, and, as in any other business, he will oversee and direct the work in accordance with the plans, details and specifications furnished him for that purpose. The architect is not a foreman, but an advisor, and, to gain successful results, both the owner and builder must co-operate with him. Because you are the owner, do not attempt to boss the job, as the builder may be only too glad to have you assume the responsibility that goes with his authority, and consequently all the mistakes. It is disorganizing to any business and leads to conflict when there are too many bosses. The architect has learned, by experience in building, many things that are not known to the average layman.

The above conditions enter into the small house problem more than they do into the larger houses and more important work. Sometimes exasperating delays occur, caused by one sub-contractor being delayed finishing work elsewhere before he can move his men, or the material men are slow about delivery, or something happens at the mill, and the finish is delayed, which

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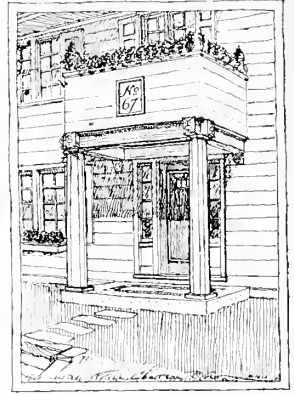


By recessing the doorway a small hall was provided. See scheme D opposite

THE busy American has rather a tendency to the "pose" of being proud of his over-occupation by business, at least to the exclusion of the development of his merely esthetic sensibilities. And that, too, despite the fact that he thereby often commits some of those very mistakes of taste he would scornfully regard in others as evidencing the taint of the *nouveau-riche*, while in many instances he appears even more short-sightedly to disregard modern appearances of mere business efficiency and success. It is probably this very defect that has caused him so long to ignore, for instance, the ugly approach to his cities from the railroad station—itself generally located in some gloomy and tumble-down business section, and at which one arrives only after passing miles of suburban back-yards, dilapidated box-cars, rear tenement porches and grimy factory windows. It is perhaps his constant familiarity with this daily experience that has somewhat blunted his susceptibilities in the



An entrance set inside a bay loggia with brick step and path giving approach. Here the lawns were also raised to conceal the height of the first floor above grade at the front



A simple porch adding character to an otherwise conventional Colonial type

past, even as to the benefits of seemingly sightliness when approaching the entrance to his own home. It is now, however, as undoubtedly true that we are gradually developing a feeling of responsibility and pride in regard to our own grounds, and those of our immediately adjoining neighbors; just as we are also gradually developing a

sense of civic responsibility which has already begun to better the modern "city gates" through which we now approach our more advanced business centers.

This front yard, the approach to the house, the entrance porch and steps, all perform their essential part toward that very important "first impression" we desire to be, at least, fairly favorable! It is true that this "first impression" survives from experiences extending further into the house. The front vestibule, the staircase, the hall, and such of the rooms as open from the hall, are equally as important as the doorway itself in continu-

Doorways and Their Approach

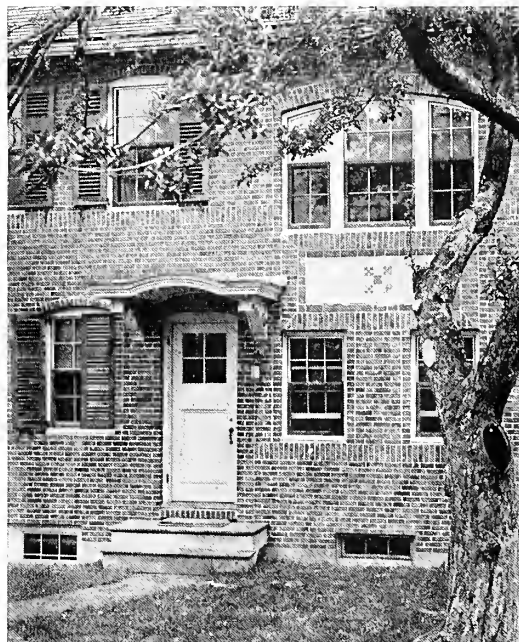
THE EFFECTIVENESS OF INTIMATE ENTRANCES—HALL ARRANGEMENTS—THE DOORWAY THAT IS ADDED ON

FRANK CHOUTEAU BROWN

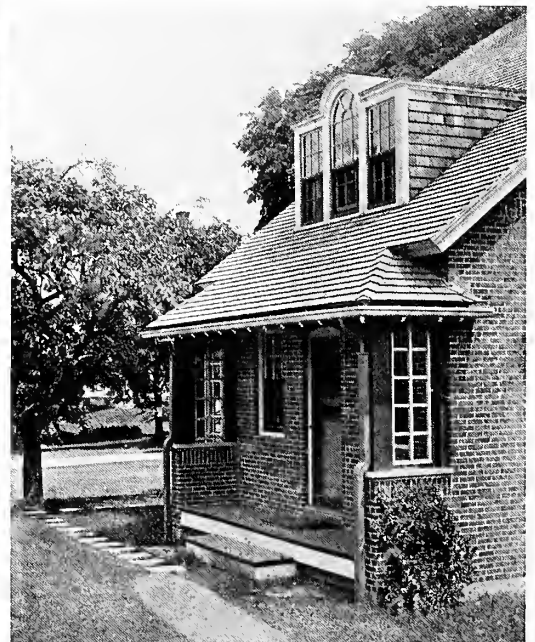
Illustrations by the Author



An effective treatment for a suburban brick house—a hung front doorway hood



The side door can also be made distinctive if hooded in some such manner as this



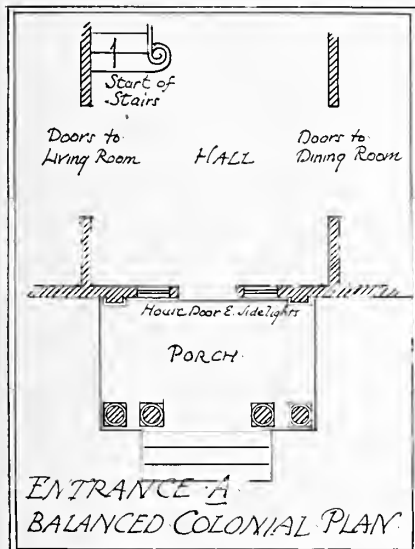
A service entrance saved from banality by a hood, an extension of the roof



Privacy lent a doorway recessed within a protective vestibule. Here the horizontal lines of terrace and step also produce an approach that overcomes a heavy rising grade



Modesty of line and construction characterize the details of this cottage Colonial entrance. The hood seats and lattice are tied together in one congruous whole, to be further enhanced by vines



There is openness to the entrance of conventional Colonial design once the threshold is crossed

treatment of the street line of the lot with flowers, hedge, fence or merely with grass, the planting of shrubbery or a flower border along the path to the door; all these things need to be differently adjusted for each different and individual problem, and each requires an harmonious treatment from so many different hands that it is rarely indeed that the result is completely satisfying to an esthetic and impressionably trained observer.

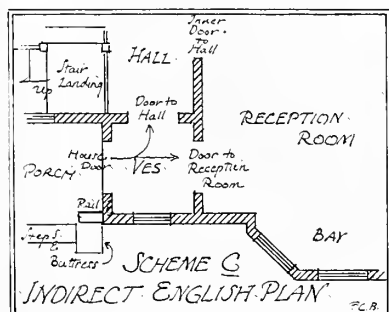
Inside the house the problem becomes still more complicated. Not only do the color texture of the floor, the walls and the ceiling, the paper that covers the walls, the rugs and pictures, the furniture, the color and material of the hangings, as well as the arrangement of the stairs, rooms and doorways, all enter into this impression, but there

ing and perfecting the impression first created.

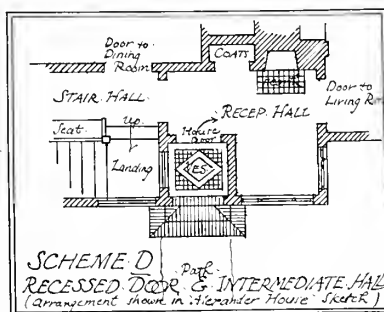
The extreme complexity of the problem now begins, perhaps, to be apparent! All these different elements, beginning with the very location of the house; its relation to the natural surroundings; the position of trees; the contour of surface grades; the paths, their materials, widths and location; the

should here also become evident those myriad and distinctive traces of harmonious occupancy and liveableness in the use that is being made of the house that, in a less evident form, can even be apparent upon its exterior.

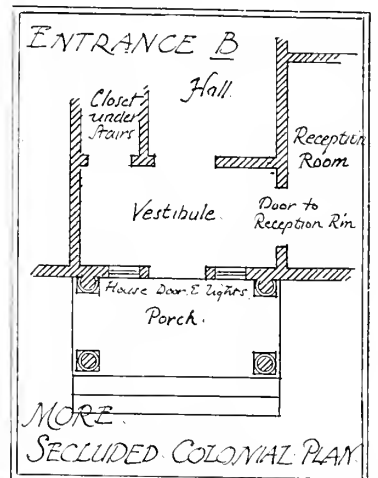
Some of these factors date back to the very beginning of the house, the arrangement of its plan. Is the front door to be so located that a stranger entering the home has at once laid bare to him the entire mechanism



In the indirect English plan, the reception room is advanced beyond the face of the staircase



The plan for entrance shown opposite, with doorway recessed providing a small hall



With a small vestibule, the secluded Colonial prevents callers from being precipitated upon the family.

and machinery of its working? This is always the result of entering a house built on the plan in fashion a generation ago—with a hall extending through the house from front to back, and large doorways opening into living-room and dining-room upon either side. Little privacy or seclusion

is possible in such a dwelling once the stranger has won his way past the outer door-sill.

Under more modern ways of thinking, the attractions of the open hall extending from the front to the back of the house are not deemed worth the sacrifices necessary to obtain them. It is true that in summer, in a house fronting north, it is very attractive to enter a hall with its opposite end open to the sunlight and the garden, but, as the American, particularly when of Puritan descent, seldom so far relents as to provide for and

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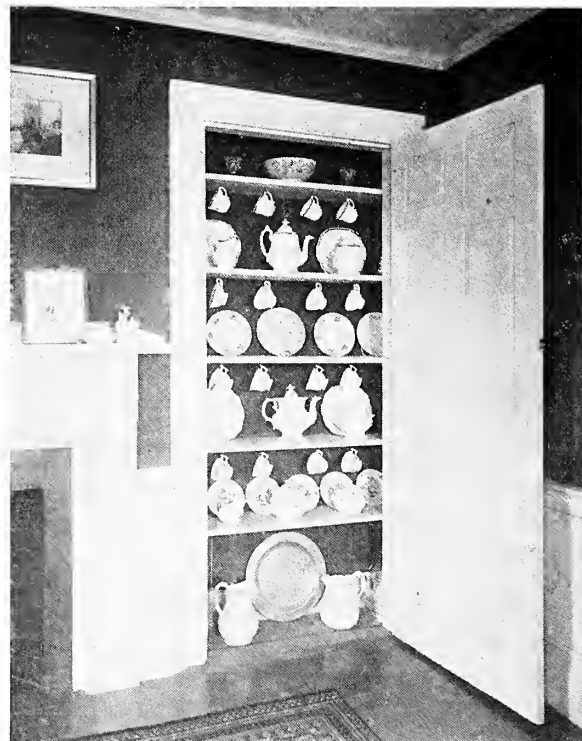




Where the thickness of the partitions allows it, such a handy closet can be built in



The space at the end of the fireplace permits of various arrangements such as the two shown here



A clothes closet made over to hold china—an example of thoughtfulness exercised in shelf arrangement

Useful Closets in Unusual Places

GETTING EFFICIENCY OUT OF THE WASTE SPACES OF THE HOUSE—INGENIOUS CLOSETS AND THEIR USES—PLACING CLOSETS TO SAVE STEPS

PHIL M. RILEY

Photographs by Mary H. Northend

CASUALLY treated, the subject of closets sounds prosaic indeed, but it becomes more absorbing upon further scrutiny.

In building a house there is no more vital issue. Did you ever live in a house that had enough storage space? Probably not. Relatively few exist. One needs to have lived in a city apartment in order to appreciate its worth.

Too frequently closets are merely the left-over spaces after the room divisions of a floor plan have been made, with the result that they are either too small or incorrect in shape. Of what use is a closet one foot deep and seven feet wide, with a door toward one end? It is logical and right to utilize the so-called waste

spaces throughout a house for storage purposes, but an intelligent architect now plans the storage problem just as carefully as

he does his principal rooms, so proportioning the whole house and dividing the floor area that virtually there are no waste spaces.

This is as it should be, and a general movement tending toward greater efficiency in the house is responsible for it, as well as many other good things. True, there are in many houses spaces, particularly in partition walls, under stairways and low eaves, and in the jogs of rooms, that could be used for no other purpose than storage, and which are neglected thoughtlessly or for the lack of a



In an old house that allows idiosyncrasies, these passage closets are permissible. Their shape detracts little from the width of the passage and makes no dangerous obtrusion

good logical scheme to utilize them. Such instances are indeed unfortunate, and perhaps the following review of several interesting closets may furnish a few ideas of sufficient appeal to encourage you to avoid possible errors of omission and commission in the house you hope to build.

In an old Colonial house, remodeled by a young architect, are some especially clever schemes, indicating that even if your house is already built there is still an opportunity to increase its comfort and efficiency. Entering the front door, a vestibule had been added, provided by a new partition across the wide, old-fashioned hall about four feet back from the front wall of the house. This kept the hall warmer and provided a small room about four feet square each side of the vestibule and lighted by the side-lights of the Colonial doorway. One of these rooms opened off the vestibule and was equipped with hooks, hangers, umbrella-stand, mirror, etc., for the use of guests. The other served as a sound-proof telephone-booth opening off the hall for privacy of conversation when wanted.

The hall extended only part way through the house, and at the rear end the front stairway wound upward in three runs and two landings. Access to the cellar was had by a flight under the back stairs, leaving the space under the front stairs for other purposes. As the space under the third run was open to the hall, there was opportunity to locate a family clothes-closet for outer garments under the second landing, reached by a door opening from the hall. Often this space is used for a telephone-booth when no other is provided. The space under the first run and landing was used in connection with the den at the right of the hall, and that under the second run was used for the dining-room back of the hall and reached through a short side hall to the left.

Built into the wall of the den, its bulk under the first landing, and only its face showing, a fire-proof safe served to store papers of value. It was somewhat conspicuous, too, and might attract a chance burglar long enough to ring the electric alarm attached, the valuable silver, however, being kept elsewhere at night. A closet above the safe, the depth of the partition only, contained a rack of several thin board shelves set at an angle of twenty-three degrees, forming

pockets in which to thrust folded newspapers. To the left of the safe, a panel in the wainscot proved to be a small, almost imperceptible, door, giving access to the space under the first run of the stairway, which was used for files of magazines kept for reference. There had been an ingenious use made of the space under the second run. Pressing an invisible spring in the wainscot, and pushing aside one of its panels, a well-filled cellarette is displayed.

Pressing another invisible button and pushing aside the whole cellarette discloses beyond, in the space under the stairs, another fireproof safe, in which the valuable old family silver was kept.

The entire wall of this hall was paneled in white-painted wood, and on each side of a small English bay with casement sashes the corners of the room had been taken for triangular china-closets with round-top, double doors with leaded, clear glass in a simple, attractive pattern. An unnecessary clothes-closet in this room was utilized for a third china-closet by the introduction of white-painted shelves with hooks for hanging cups.

A door opposite this one the other side of the fireplace led into the kitchen through a butler's pantry with a broad serving-shelf and drawers on one side and a linen-chest with closets high up and drawers low down on the other. At one side of the linen-closet, in a closet the full height of the room and about two feet square, the brooms, mops, vacuum-cleaner and dusting-brushes were kept, each on its proper hook. A shelf above was reserved for floor-wax, wood and metal polish, while two drawers at the bottom contained cleaning- and dusting-cloths. This location has been chosen as being equally handy to kitchen or front rooms.

In remodeling the house, it was found that, as is usually the case, much space had been wasted each side of the great old chimney, and here was found ample room for a bookcase with attractive glass doors and two big drawers below. The most ingenious closet in this room was a tiny affair with a little leaded-glass door at one side of a window-seat built into a jog in the room. It had no definite purpose, but was filled with playing-cards, game-scores, a box of cigars and a sewing-

(Continued on page 62)



Every nursery should have at least one closet high enough up in the wall to be out of reach of small hands



Experience has shown that shelves—not drawers—prove the most feasible arrangement for the linen closet. If placed on rollers, the shelves can be easily pulled forward, thus saving a reach to the back.

The Uses of Woodwork in Interior Decoration

IN feudal England the fireplace, as we know it now, was a rarity. Instead a raised stone or brick hearth was built in the center of the great living-rooms or halls, and the smoke from the fire curled up among the high roof-trusses and found its way out through a ventilator at the ridge. The Donjon - Towers of the castles, however, with their several stories, presented a different problem; here a low niche was scooped in the side wall and a flue carried up several feet and out through a slit in the side of the tower. Under the Tudor kings this became a fireplace much as we have it to-day, a development that, on the Continent, had taken place years before; but the great overhanging hoods of France or Northern Italy were not copied by the English, whose fireplaces were generally cut into the wall instead of being built out from it, and decorated with flat tracery and cusping, sometimes surmounted with a moulding which became the mantel-shelf of later times. The Continental fireplace was tremendous, taking up in certain cases almost the entire end of a large room; but under the Renaissance it gradually lost its importance, until in Louis Fifteenth's time it had become little more than an incident in the panelling.

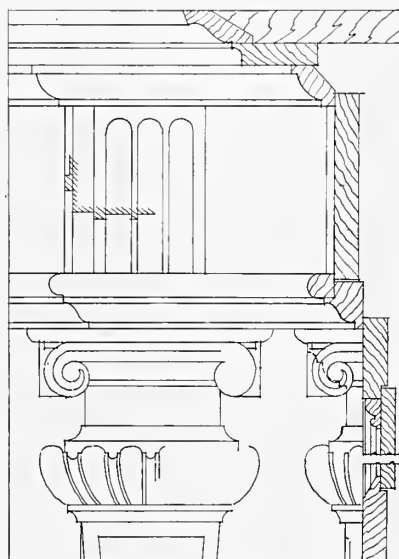
In England, however, its importance increased with the Renaissance; under Elizabeth and James First it was set in a projecting mass of masonry, highly ornamented at the sides and above the fireplace opening with pilasters, arches, niches, carved figures or strap-work, complex in the highest degree and absurd at times. Skilled labor was plentiful; religious persecution had driven into England great numbers of Flemings, Belgians and the Low Dutch, trained in the crude and distorted



An interior in the Jacobean manner. Characteristics are the small panels of the oak wainscot, the importance given the chimney breast and the delicate interlaced ceiling tracery

THE JACOBEOAN—A TRANSITIONAL PERIOD IN WHICH WOODWORK FURNISHED THE MOTIF—FIREPLACES OF THE TIME AND THEIR MODERN REPRODUCTIONS

ALFRED MORTON GITHENS



A corner of overmantel in detail, characteristic of the period throughout and showing the peculiar Jacobean interpretation of classic forms

classic forms that were then the last word of architectural decoration.

In remote districts the English workman held his own; he used the new motives, ignorantly, it is true, but with reserve, and at the same time clung to the familiar forms of his tradition, forms which later were to be utterly cast off, considered relics of a barbarous age and contemptuously alluded to as "Gothic."

"Jacobean" is the name given this period of transition. Of course, the struggle between the old style and the new applies to all English decorative work of the period, though it is more easily detected in architecture than in other arts. The struggle waxed and waned; under Elizabeth the old forms had been almost entirely crowded out by a riot of debased classic, as fantastic in its way as the habit

her Court gentleman had of dyeing a lock of his hair scarlet and tying it with a ribbon. Under James First there seems to have been a return to the sanity and tranquil dignity of the old tradition.

Such is the type we have taken for this paper. Most characteristic is the pleasant monotony of the rectangular wood panelling. Many manor-houses have an "Oak Room" similarly wainscoted. This is an inheritance from earlier English work, and there is a suggestion of older forms, too, in the curved stone supports at the sides of the fireplace opening and in the Tudor arch spanning it. The little wooden pilasters above are Flemish in origin; the wooden cornice, of course, quite classic; the plaster tracery of the ceiling a development of a Tudor decoration. We make no apology for this erudition; a period style we have set ourselves to adopt, so we will do it consistently and turn a deaf ear to any sug-

gestion that we are trying to "resurrect dead bones." A mantel somewhat similar can be found at Plas Mawr, in Carnarvonshire, with its combination of the old tradition and the classic; the ceiling treatment, in the Long Gallery of Haddon Hall; the system of graduated rectangular panels and the plain, leaded windows in many rooms of the period.

The drawings show a double window; but it might be triple, quadruple or single. The frame and mullions should properly be stone; the glass and its leading set directly into it, or in slender iron casement frames that may open either in or out. We shall see many such windows in America during the coming years; in England they are used even in the smaller cottages, but here they are still expensive. An alternative, though not so true to type, would be the glazing of a wooden casement sash with the leaded glass; still another way would be the omission of lead altogether, with ordinary wooden muntins, slender as possible, dividing the sash into small panes. Of course, wooden mullions might replace the stone.

The wainscot in the old examples was nearly always oak, either rubbed with oil or just as the carpenter left it; varnishing, waxing and such finishes are modern. The English oak is darker than ours and is further darkened by extreme age to a delicious cool brown, which we try to imitate with our stains; and we succeed very well indeed. Long rubbing and polishing have smoothed the English oak, and the effect of this we get with our wax or our hard varnish rubbed down with pumice. The cost of best quartered white oak, set in place, stained and waxed, should be about \$.75 or \$.80 per square foot, with \$100.00 added for extra work at doors, cornice and corner pilasters above the mantel. Assuming a room 16 x 18 feet with wainscoting 7 feet 6 inches high, we have then:

$16 + 16 + 18 + 2 + 2$ (for chimney breast) = 72 feet long
 $\times 7\frac{1}{2}$ high, or 540 square feet; less the area taken up by stone work of the fireplace, $4\frac{1}{2}$ high \times 11 long (including sides of breast), or $49\frac{1}{2}$ square feet, we have:

$540 - 49\frac{1}{2} = 490\frac{1}{2}$ at .75 = \$367.50 + \$100.00 = \$467.50
 as the cost of the woodwork complete, done in the very best manner. This amount could be cut down by using a different wood, by omitting the moulding that outlines the panels, by simplifying generally.

The stone fireplace allows a choice of two entirely different materials, limestone or cast concrete stone. The old fireplaces were cut in a stone closely resembling our Kentucky or Tennessee limestone, and the design we have shown, cut in one of these, with the stone carried back to the wall at sides and with the stone edging at the hearth, would cost about \$250.00. The best concrete-stone would be much less, \$150.00 or thereabouts. If more than one fireplace were required, the succeeding ones would cost about \$75.00 apiece; for the greatest labor is in making the wooden moulds, which can be used over and over.

It is an interesting material this concrete-stone. Portland cement (almost all the cement in common use is Portland cement) is mixed dry with crushed rock of uneven fineness varying from that of sand to pieces as large as one's finger-nail; a red sand, or a powdered pigment, is sometimes added to give color, though to me the attempt

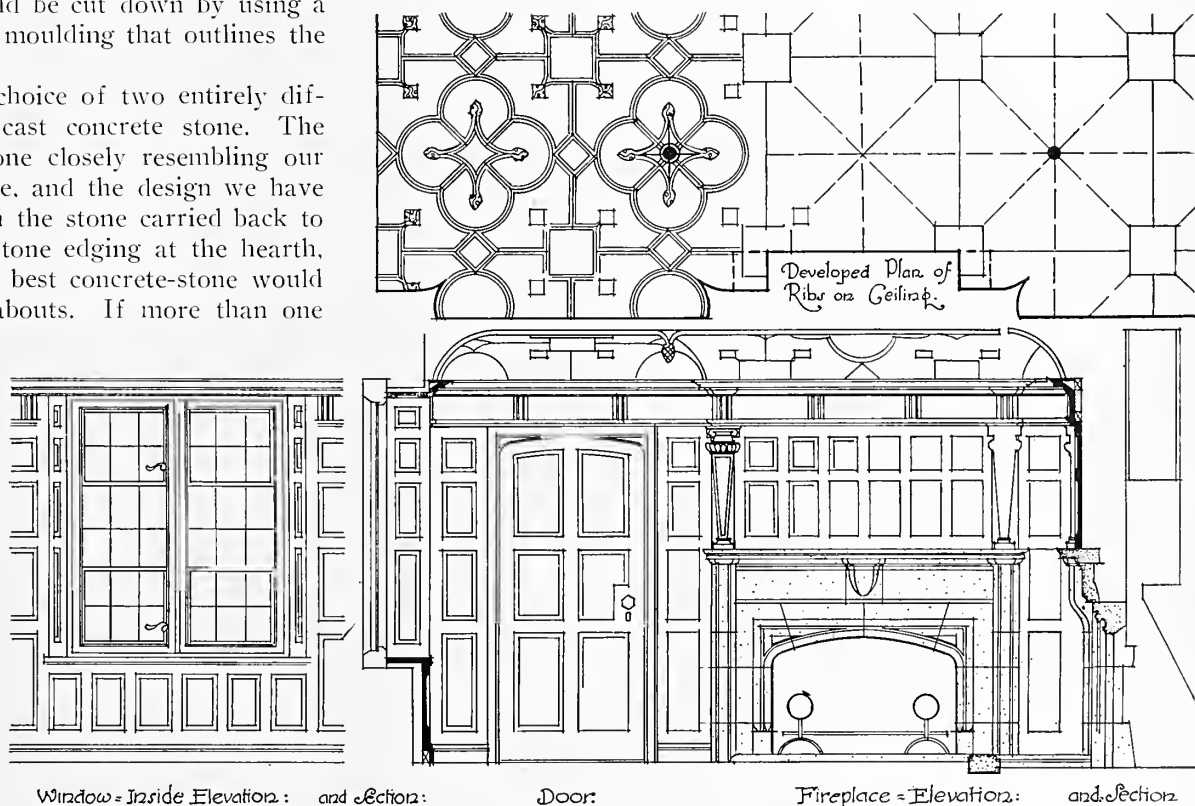
at any sort of coloring is unsatisfactory; then the material is dumped in a machine mixer and the wet mass poured in the moulds. These are of the best wood painted with crude oil inside to keep the concrete from sticking; but wet sand moulds are often used.

Ordinary concrete is composed of three parts: cement, sand, aggregate. The aggregate is either clean cinders or gravel, broken slag or broken rock; this forms the bulk of the concrete, and the sand merely fills in the cavities, with the cement glueing the mass together. The crushed rock used in concrete-stone, being in both fine and coarse fragments, no sand is necessary. The rock may be limestone, conglomerate, trap, quartz, or almost any other stone, but crushed granite is one of the best. In proportion of 1 of cement to $2\frac{1}{2}$ of crushed granite, the product resembles limestone rather than granite, and, if properly finished, is clear and altogether free from that pasty, dull look which we have learned to associate with concrete.

The dullness is caused in part by free cement mixed with impurities settling against the mould. This is called the "skin," and is removed by either scrubbing with brush and water when the cement is "green;" that is, about a day old, or else washing with muriatic acid and water several days after casting, or rubbing with a wet piece of stone and so exposing the aggregate. Better than any of these to me, however, is a bush-hammered finish made before the concrete has reached its full hardness. A bush-hammer has its head formed of six or eight thin steel blades piled like a stack of playing cards and held together by an iron band at the end of the handle. With this the stone is chipped and the surface broken away until the granite sparkles through it and the texture is neither smooth nor sandy, but rough, like the tooled surface of natural stone; a very different affair from the concrete "rock-faced" blocks that we see built into small houses in the suburbs.

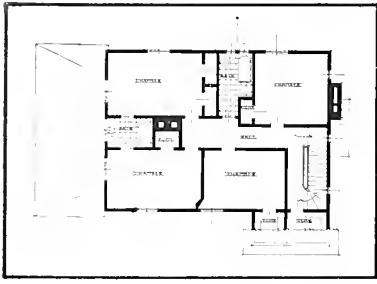
There is no reason why concrete should not be finished with the same tools that are used in finishing natural stone, for, after all,

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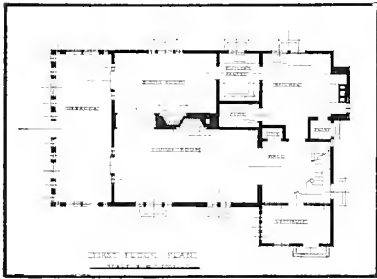


Window - Inside Elevation: and Section: Door: Fireplace - Elevation: and Section:
 Elevation of side wall; detail of ceiling. Oak wainscot stained and waxed, (or stained and varnished,) fireplace jambs and arch of limestone or concrete stone. Ceiling with cast and applied plaster tracery

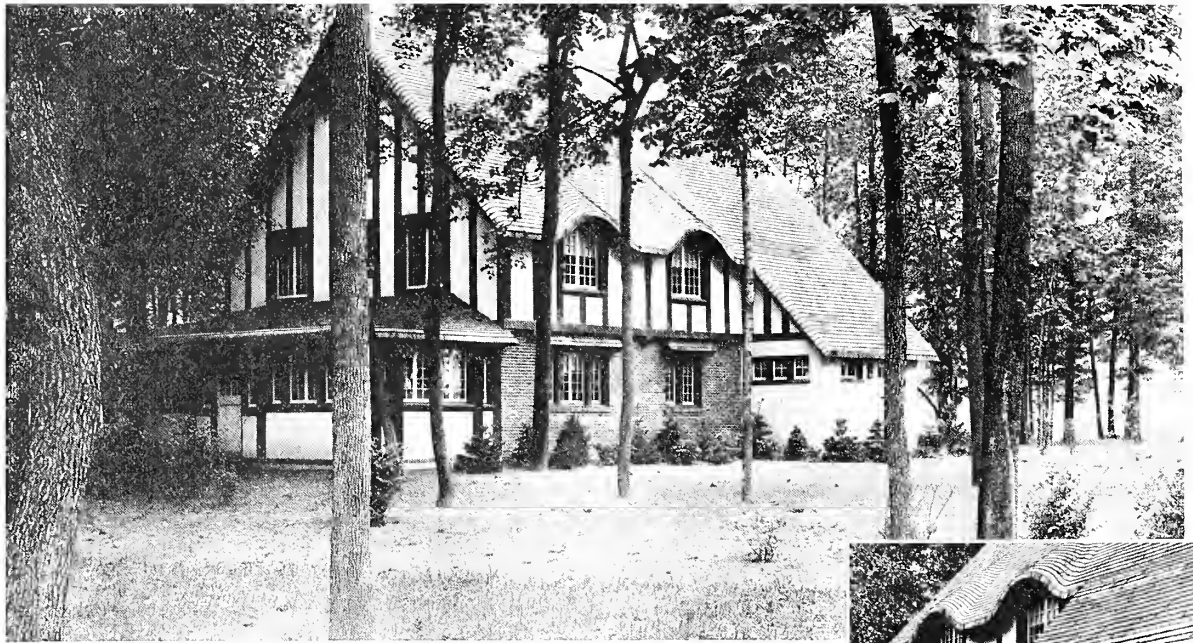
Four Distinctive Houses of Moderate Cost



The second floor shows a simple arrangement of the chambers with the stairs to one side, giving a maximum of space



Openness characterizes the first floor. The arrangement of chimneys is interesting



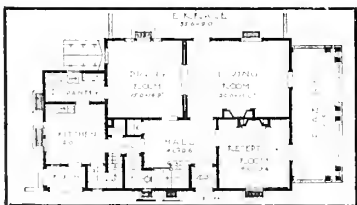
A half-timbered stucco house at Great Neck, L. I., with roof-lines of individuality. The closed-in porch and the windows well fit this country cottage type. Caretto & Forster, architects



By continuing the roof, an effective entrance is produced

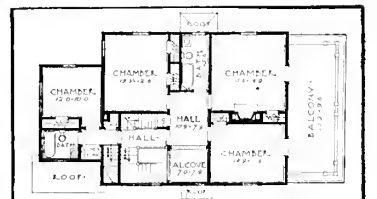


This hollow tile stucco house at Hartford, Conn., has distinctly livable possibilities—plenty of window light, plenty of porch room, and a walled garden enclosing the service department. A. Raymond Ellis, architect

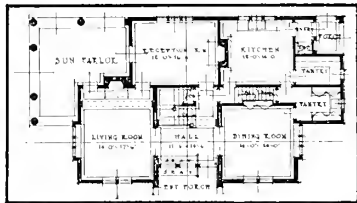
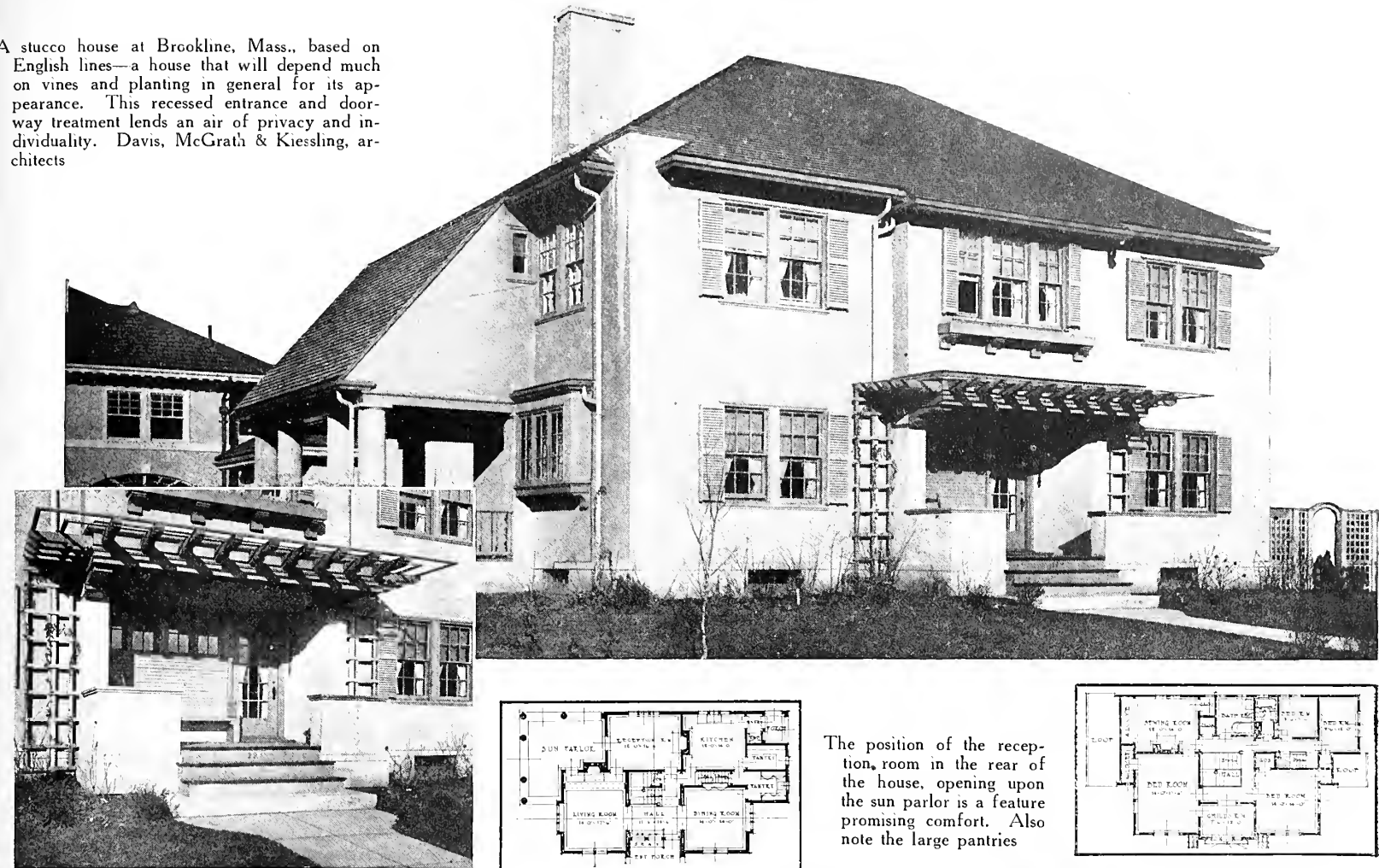


Indirect entrance is effected by the vestibule and the larger hall, thereby assuring privacy for the family. With a wing devoted to service quarters, that department is properly isolated

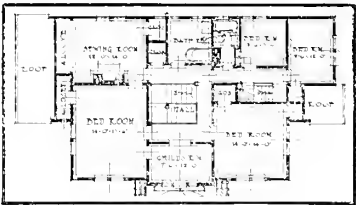
Chamber room enough for a small family; plenty of closets, and thorough ventilation are among the attractive points on the second floor plan



A stucco house at Brookline, Mass., based on English lines—a house that will depend much on vines and planting in general for its appearance. This recessed entrance and doorway treatment lends an air of privacy and individuality. Davis, McGrath & Kiessling, architects



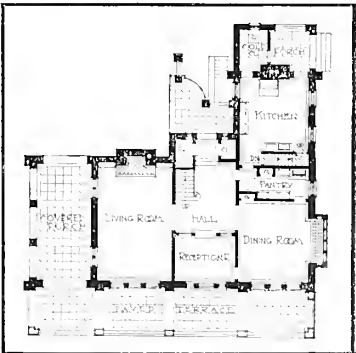
The position of the reception room in the rear of the house, opening upon the sun parlor is a feature promising comfort. Also note the large pantries



Distinctly a house for a family growing up, generous children's rooms off the master's bedroom, and sewing quarters



Like the master's, the guest suite is a separate apartment, the large hall serving to isolate it and yet easily connecting all the chambers



Although built along Colonial lines, this house at Bryn Mawr shows what can be done where liberties are taken within reason. The hillside problem has been solved by the terrace. Savery, Scheetz & Savery, architects

Plenty of the house is outside! Besides their homey values, the covered porch and paved terrace serve also as a setting to the house proper



The Saturday Afternoon Garden

WEEK-BY-WEEK WORK IN THE VEGETABLE PATCH FOR THE BUSY MAN OR WOMAN

D. R. EDSON

THE suburban garden, as a factor in reducing the annual family budget, has been under-, rather than over-estimated. In spite of the fact that new methods and varieties have mitigated against what might have been the natural result of this, and the consumer has to pay as dearly for vegetable products as ever before. The home garden must continue for many years to play an increasingly important part in helping to solve the national bread-and-butter problem. Vegetables and fruits are occupying a larger and larger place in our diet; and, the larger the place they occupy, the smaller the doctors' bills are likely to be. The home garden has been underestimated; not that there has not been enough written about it, but in much back-to-the-backyard literature, as in the back-to-the-land movement, the "inspirational" side of it has been overworked, and the perspirational side has been overlooked. If you are going to get results worth going after you have got to go after them with your collar off, and expect to get your hands dirty. If you are one of the thousands who would like to see the table expense item of the family budget cut down without knocking off on the table, secure a small plot of ground somewhere that you can cultivate. Half an acre will be ample, and more than that may prove too much.

If all the readers of this magazine had gardens of standard sizes and shapes it would be comparatively easy to tell them how to get out of the ground the maximum results with a minimum amount of work. But, of course, their gardens are of all sorts and conditions and sizes, and they lie in every climate, from the tropical of the Southern States to the short, cool summers of Northern New England and Canada. It is out of the question, then, to plan one garden for all conditions. On the other hand, the more general in character the information and suggestion one may give, the less use it is likely to be to the non-professional gardener. In this series of articles I have attempted to arrange the work which demands attention throughout the year, planning it so that

it may be taken up on successive Saturday afternoons so far as is feasible. In addition, as a guide rather than as a model, two sample gardens of different but average sizes, will be laid out, and the various tasks to be done in them, in connection with vegetables and small fruits, such as cultivating, spraying, succession planting, etc., will be explained as the season progresses. In this way the busy gardener may, with the least loss of time, utilize those things which will help him in solving his own problems.

However, throughout the entire season he will have to use his own judgment about following dates in connection with planting, early and late, and harvesting; about the amount of space to be devoted to each crop, and about a score of other things which it is impossible to prescribe for anyone else's garden.

While there is not much to be done this month in the way of actual garden operations, there are some preliminary things which should be attended to. The success of your summer's garden will depend to a very large extent upon the amount of time and thought you are willing to devote to it this month and next. Many persons fail to take any action until the perennial spring garden fever lures them to it. But the gardener who is content to wait for any such primitive impulse will have a primitive garden.

The average gardener usually thinks of making out the seed order as the first step to be taken. But before you undertake this absorbing task there are two other things which should be done.

The first good Saturday afternoon this month (and if there is no good Saturday afternoon, you can do it on Sunday without exciting the suspicion of the neighbors) select the spot or spots which you can devote to your vegetables and small fruits, and get accurate measurements of all dimensions. If the amount of ground at your disposal is very limited there will be no choice of location. But a good garden can be made on almost any soil, provided it can be well drained and is not too much shut out from the sun. I know of one successful garden made on ground so

WHAT TO DO IN JANUARY

2d—Select the places in your garden to devote to vegetables and small fruits, and if you've recovered sufficiently from your New Year's dinner to bend over, take accurate measurements.

9th—Clear a place on the dining-room table and draw a careful plan of the size and shape of your garden. Indicate everything—trees, big stones, paths, shadows from walls and steep grades.

16th—Build or arrange for some place to keep your tools and seeds. If it is a shed away from the house, brighten it up with a coat of paint.

23d—Lay in a store of plant food—manure. Mixed barnyard manure well dried and broken up is best. But see to it yourself.

30th—Study your catalogs carefully, together with the plan you made two weeks ago. Then send in your seed orders.

low that its owner has had to build it all up into beds with sod edges, the surfaces of which are a foot to eighteen inches above the walks. No one living on the place before him had ever been able to grow anything. On another place, a friend of mine has overcome just the reverse conditions. He had nothing to build his garden on but what was practically a sand-bank. By the addition of wood ashes and an occasional dressing of dried muck, which he was able to get in a wheel-barrow from a near-by river, he has succeeded in growing almost every garden vegetable. Both of these gardeners are workmen who have had no resources for improving the adverse conditions except their own spare time and the determination to grow things.

But if there is an opportunity to select the garden site, pick out preferably a spot which faces the south or south-east. If it slopes gently and is protected on the north or north-west, there is a further advantage. Above all, must the garden spot be well drained. With modern methods of irrigation it is an easy matter to supply an abundance of water to the driest garden. But the wet garden is, in many respects, foredoomed to failure. The garden's past history is also important. The well-managed garden spot becomes richer and better year after year. But a garden that has been neglected becomes so weedy that it is far better to change it if possible, on account of the extra amount of labor which weedy soil necessitates. On the other hand, it is much more work to break up and get into shape a new piece of ground, especially if it must be worked by hand. With heavy sod it is next to impossible to make the soil as finely pulverized as it should be the first year. Part old and part new ground, however, is a very good combination, and some crops do better where there is a great amount of humus in the soil, even if it is not so thoroughly pulverized.

Also get your garden as near the house as possible. A distance of even a short walk away will make a great difference in the pleasure and the work of taking care of it. If the garden must be at some distance from the house, then plan to fix some place to keep your tools, garden line, seeds, etc., near it. A miniature shed, such as may be readily constructed from an old piano-box or large dry-goods box, covered with roofing paper to keep out the weather, and painted for appearances, will save enough steps during the first month to pay for the time required in putting it up. You can disregard the old

idea that the garden must be out of sight. If you are going to take good care of it, it will be as attractive looking as a flower garden. If there is any possibility of your not taking such care of it, then you had better put it in sight, anyway, as that will be some incentive to your keeping it clean and cultivated.

When you have decided on the spot where your garden is to be located, make careful measurements, and jot them down. While it is more convenient to have the garden all in one spot, it is by no means necessary; and if the small fruits and such perennials as strawberries and asparagus and rhubarb are kept together, the work will be lightened. After you have taken the measurements, take time some evening to make a careful plan, drawn to scale, of the size and shape of your garden. This should be large enough so that spaces of a foot can be readily shown. Any trees, stones, paths, shadows from walls, steep grades, or other similar characteristics, should also be indicated.

Such an outline is absolutely necessary before one can plan the year's work systematically. Even if there were but one planting of seed to be made, a carefully made

planting plan would be worth while. To make the best use of companion crops and succession crops, it is an absolute necessity.

On another Saturday afternoon some time this month, even though the ground be covered with snow, make arrangements for your spring supply of manure. An abundance of plant-food must form the basis of any successful garden, and where manure is to be had, part of it should be bought in this form. If at all practical to do so, you should personally investigate what you are buying before you get it. Some manure is hardly worth the hauling, but really good manure will be well worth several dollars a load, especially if your garden has not been abundantly supplied with it during the past year or two. The value of manure depends upon what has been fed the animals producing it, and upon how it has been kept, more than upon the kind it is. For

(Continued on page 62)



Arrange for a place to keep your tools and gardening impedimenta—and keep them there. This will save both your time and the tools. A coat of paint or a new tar-paper roof will help brighten up the shed





A study for the skyline of a house at Chestnut Hill, Pa., Edmund B. Gilchrist, architect

Cost, Texture and Design in Roof Planning

A BRIEF RESUMÉ OF THE POSSIBLE ROOF TREATMENTS AND THEIR RELATION TO THE TYPES OF HOUSES—ARTISTRY IN THE SKYLINE OF THE HOUSE.

HAROLD DONALDSON EBERLEIN

A CHAIN is no stronger than its weakest link, and a house no whit better than its roof. This is true both with respect to the actual material fabric and the worth of the architectural design involved. If the roof is unsound and leaky all the rest of the structure suffers serious impairment and begins to disintegrate. A leaking roof is held legally to invalidate the habitability of a house and, accordingly, in some places the payment of rent cannot be enforced unless the roof be weather-worthy. Regarded from the architectural point of view, the roof is the oldest and, in many ways, the most significant feature in the evolution of the house, without which, indeed, a structure can scarcely be called a house. A well-designed roof may do much to offset an exterior in other respects poor, but a bad roof will assuredly pull down the rest of the house to its own level of mediocrity or worse.

Since the roof is a feature of such vital importance, it behooves the prospective house builder or remodeler to weigh and study well all the possibilities open to him in the direction of roofing. For the sake of convenience and clearness it will be well to consider the subject under three principal heads—structure, which will include the character of the materials and their cost; texture and color; and, finally, architectural design, which covers the *tout ensemble*, including contour or skyline with the many legitimate opportunities afforded for creating points of interest and individuality. As a preliminary step to the threefold examination proposed it is necessary to make some classification of the most usual types of roofs. They are as follows: flat, lean-to, span or ridge (sometimes called "coupled rafter"), gambrel or curb, mansard, hipped, gabled and jerkinhead.

The physical form of the roof according to one or another of the types just mentioned will necessarily influence

the choice of material for covering. For example, it would be impossible to use slate, shingle or thatch on a flat roof. Some covering without joints or interstices that the water can penetrate must be used instead. Notwithstanding the fact that several fairly recent country houses with flat roofs have been designed by clever British architects, the type is not usual enough to require extended consideration further than to offer a few hints that may be put into effect in dealing with decks or any of the flat or virtually flat areas that occasionally occur in connection with a roofing scheme of different character. These approximately flat areas must, of course, be given a slight incline for the sake of drainage. For a satisfactory covering large tiles, like flooring quarries, laid in mastic cement may be recommended. This may be well done for about 35 cents per square foot. Heavy lead—five-pound lead is a good weight—may also be suggested. This will cost approximately 60 cents per square foot. It is expensive, but exceedingly durable and satisfactory. As a less expensive covering, deck canvas, well coated with shellac or waterproof paint, may be used. This covering, however, is only suggested for sleeping porches, where it is likely to be under constant inspection, for disaster will follow the least neglect or accident. In using canvas, the edges or gutters against the coping must be well flashed with lead or copper.

The lean-to roof needs no specific consideration here, since it may be regarded as the half of a span or ridge roof, the sort that next claims attention. The slope of the span or ridge roof, at

least the traditional slope which long experience has proved the most advisable in different countries, is governed to a great extent by climatic conditions, and, in a general way, it may be said that the pitch becomes steeper as the latitude becomes higher. The steep pitch is obviously



Slate is used effectively on the roof of this English country house, the roof lines of which, characteristically British, might serve as a model on this side

for shedding snow and preventing water from backing up and penetrating the cover at periods of rapid thaw.

The covering materials that naturally suggest themselves for ridge roofs are shingles, slate, tile, composition slabs or tiles of various sorts, tin, lead, copper and thatch—a wide variety and susceptible of almost endless forms of treatment. The distinction between "roof" and "roof covering" should be borne in mind. The former is the supporting frame of timber or steel, whereas the function

of the latter is to cover the structure in and protect it from the weather. Of the metal coverings, copper is the most durable, the lightest and the strongest. With a copper roof, because of its heat-conducting properties, there ought to be a layer of felt or some non-conducting material laid between the metal covering and the wooden sheathing underneath. The green carbonate that forms on the surface exposed to the weather is both a desirable decorative feature and a protection to the metal against further decomposition. Copper, of course, is exceedingly expensive and must be regarded as a luxury, but a more satisfactory roof, from many points of view, it would be hard to find. Owing to the variations in the price of copper it would be unwise and probably misleading to make any attempt at quoting approximate cost.

Lead as a roof covering is not regarded with favor by roofers in America. They generally consider it impracticable in our climate, owing to its great expansion and failure to contract again to the same extent. There need be no such objection if the roofers would lay the sheets as they are customarily laid in England, where considerable play and movement is allowed for. A lead roof is both beautiful and durable, but must be regarded as a super-luxury, owing to its excessive cost, which presents the chief obstacle to its use. Tin, kept well painted, is fairly serviceable and light, though a radiator of intense heat both upward and downward in summer.



Thatch is often used on modern houses in England with excellent results. When well laid it is no more inflammable than shingles and is impervious to the weather

Various composition tiles of different grades of excellence and different prices may also be used for roof coverings. For a roof with a pitch of even ordinary inclination, slag is not advisable, as the asphaltum binder melts and runs in the heat of our summers. Slag roofing $1\frac{1}{4}$ " thick costs 5 to 6 cents per square foot.

Tiles are to be had in a variety of colors and shapes by different concerns, and are generally broadly classified as "shingle" or "Spanish." Owing to the great diversity in their quality, the differences in their sources of manufacture, local labor conditions and sundry other factors, it is impossible to give more than a rough approximate cost estimate for ordinary guidance. Roughly speaking, it may be said that a "Spanish" tile roof covering will cost 30 to 35 cents per square foot, while a "shingle" tile covering will cost 18 to 22 cents. Asbestos tile costs about the same amount as shingle tile. A tile-covered roof ought to have a pitch steep enough to shed rain rapidly and keep snow from lying on it. While tiles are sometimes fastened to battens laid directly on the rafters, it is best to use board sheathing and cover it with a layer of felt paper. It is almost impossible to make the tiles lie close enough on one another to prevent snow from blowing underneath sometimes. The felt paper avoids leakage from this melted snow, which evaporates or runs off at the eaves.

The same manner of laying, using sheathing and felt paper,



An English house where the physical form of the roof line eliminated all but one type of material—heavy slates laid irregularly. As a study in the skyline of the house it presents some interesting points, a logical outcome of the rest of the structure

should be observed with slate roofs, although, as with tiles, slates are sometimes fastened to battens on the rafters without using sheathing. Ample ventilation should always be provided in every kind of roof, but it is especially important that a slate roof should have ventilation to prevent decay, to which it is liable when left without ventilation. Although the different sorts of slate afford as great a variety of color as do tiles, the usual classification is "black," "red" or "green." Cost is governed by color, size and thickness. The

sizes of slate are known by number in America, a convenient method of designation, if not as quaint as the old Welsh custom of naming them "large ladies," "duchesses," "countesses," and the like. "Red" slate is usually the most expensive; "green" comes next, and "black" is the cheapest. Under ordinary conditions, a "red" slate roof covering will cost from 18 to 22 cents per square foot; "green," 12 to 15 cents, and "black," from 10 to 12 cents.

For shingle roofs the two best woods are cypress and cedar. The shingles may be had either split or sawn, but the former are preferable, from considerations of texture, which will be mentioned in a subsequent paragraph, and are also apt to be more durable. They vary somewhat in price locally, but the best split cypress shingles can ordinarily be had for \$25.00 per thousand. They are 6 inches by 24, and are $\frac{5}{8}$ of an inch thick. The number required for covering a given area of roof will depend upon how many inches are laid to the weather. Seven inches to the weather may be taken as a fair average in America, but a much finer effect can be obtained by exposing less.

Some unfavorable criticism will probably be made of the inclusion of thatch among roofing possibilities. The two objections usually urged against it are its inflammability and its permeability. Notwithstanding these objections it is often used on modern houses in England with excellent results from both the strictly material and architectural points of view. One of the foremost London architects, in speaking recently of such roofs, stated that properly laid thatch was no more inflammable than shingles, if as much so, and that it was absolutely impervious to the weather, under ordinary conditions, and was not even affected by melting snow lying upon it—surely a searching test of its powers of resistance. This architect has frequently used marsh reeds (not straw) tightly bound down with courses of sally rods or withes near together. Architecturally considered, few will dispute that the effect of a

thatch roof is excellent. The main difficulty about having one is that we have very few competent thatchers.

For gambrel, hipped, gabled, jerkinhead roofs and mansards, if anyone still wishes to have so graceless a covering to their house, what has been said before with reference to materials available has equal application.

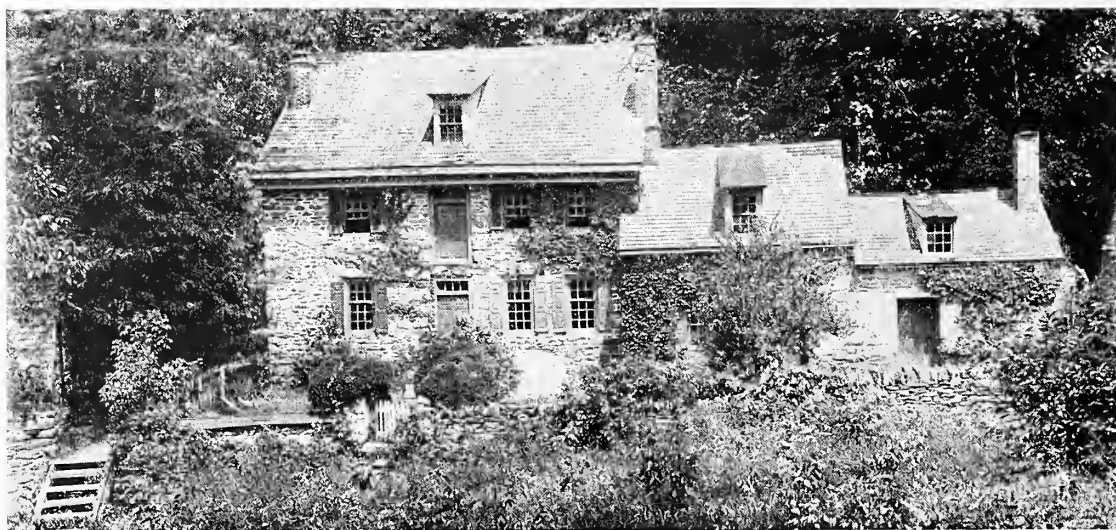
Although the texture and color of the roof come under a separate head of consideration, they must be studied in connection with materials, and results must be arrived at by their aid. If a copper roof is laid over parallel vertical wooden "rolls" nailed to the sheathing, the agreeable effect may often be heightened and a distinct note of interest added to the roof. The same sort of wooden "rolls" ought to be used with a lead roof, as

this method of laying provides more play for expansion. Iron nails ought not to be used with lead, as they cause corrosion. Owing to its great ductility and the ease with which it may be dressed and bossed into corners and irregular-shaped places, lead usually presents a sympathetic effect. The color, too, is good after short exposure to the weather.

One distressing feature about so many of our tile roofs is their snug, close-cropped aspect, due partly to the selection of the material and partly to the manner in which it is put on. A great many of our "shingle" tiles have a slightly vitrified surface, which is an advantage in withstanding the action of the weather, but not essential. "Sand-finished" tiles, which are simply baked like brick, and have no vitrified surface, have been found to answer the purpose admirably, are more sympathetic and varied in color to begin with, and soon take on an agreeable diversity of hue that the other tiles never acquire. If it is expedient to use the smooth tile with vitreous surface, it is well to put in a great many "seconds" with their random discoloration, and occasional tiles may be laid upside down so that the light kiln marks of the stringers may help to break up the deadly monotony.

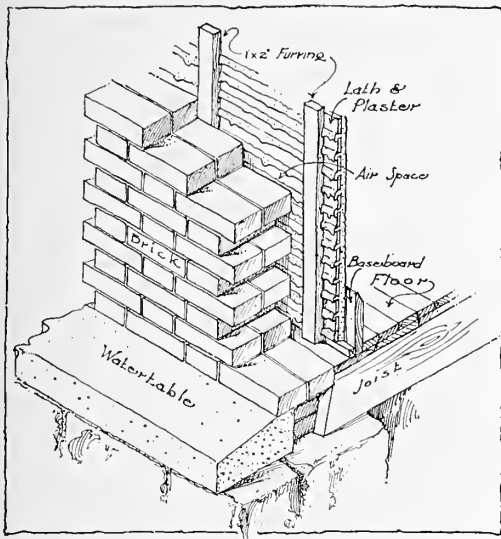
In laying shingles, it is an excellent plan for the improvement of texture to "butt" them at an angle of forty-five degrees. This can be done "on the job" with a pivot knife. It gives a more massive effect, makes the shingle appear thicker than it is in reality, softens shadows and produces the agreeable matted texture that is so admired in English cottage roofs. Another device for producing agreeable texture is to lay the shingles with less exposure to the weather—about four inches—which, of

(Cont. on page 53)

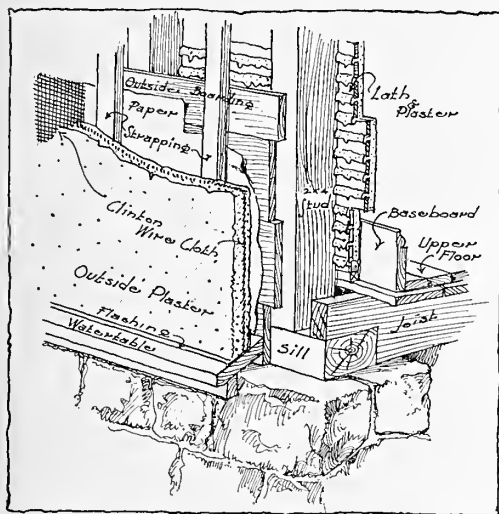


The roof of "Glen Fern" is a sincere indication of plan through the medium of the skyline. A rustic simplicity and directness in the gradations characterizes both the roof lines and roof covering





The average type of brick wall showing air space between brick shell and plaster lining

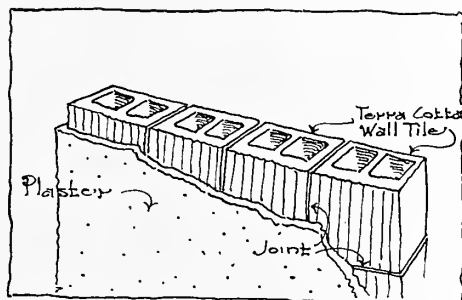


A plaster wall requires many more constituents—if hollow-tile is not used in it

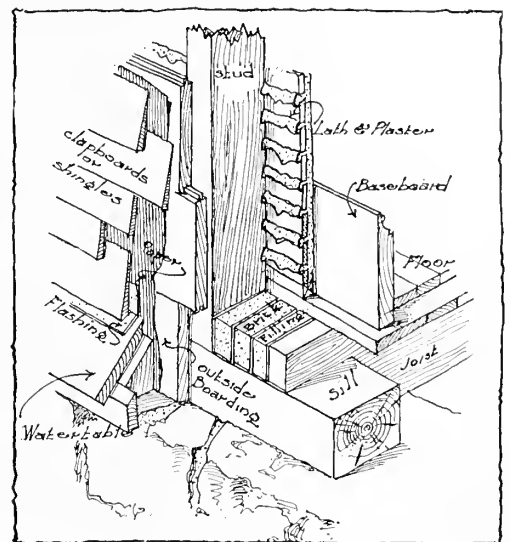
WALLS FROM THE OUTSIDE IN

CONSIDER THE ADAPTABILITY AND NATURE OF EACH TYPE BEFORE PLANNING YOUR HOUSE

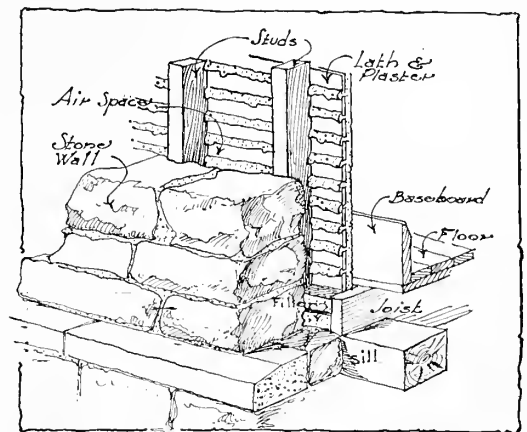
ALLEN W. JACKSON



If hollow-tile is used, the construction of the concrete wall becomes fairly simple



Clapboard, the commonest type of wall, showing use of outside boarding and building paper



Moisture seeping in through the stone wall requires a deep air space and well-constructed inner wall

OF what shall we have the walls of the new house? She likes white paint; you like brick, and your oldest daughter is just crazy about plaster covered with vines. It is hard to decide. The houses of white clapboards are certainly attractive, while brick and stone have a pleasant, substantial look, and plaster, even without the vines, has a charming texture and is most cheerful in its spotlessness.

They all have their advantages and their adherents, but, after all, it is a matter that will often settle itself. If any of the historic styles are to be used, the wall material will not usually allow of much latitude. For instance, the New England Colonial will usually call for clapboards and white paint, whereas this treatment would be a great solecism in any of the English styles. However, this is not quite so simple, for at the present time there is much excellent work being done that makes no attempt whatever to

copy slavishly any of the past architectural styles. It takes toll of them all in a greater or lesser degree, but the result refuses to be pigeon-holed under any of the old accepted labels. The shingled-all-over country houses done in the last twenty years in the East come under this head, as do these charming hybrid houses which are so elusively suggestive of Colonial, French and Italian work, but which are none of them, and almost form a style in themselves, except that they as yet refuse to be standardized.

It is then in this free house type of building that we may make

our walls of what we choose, trusting to the restraint of a trained taste to keep the result congruous; which brings us to the conclusion that if one chooses to build in an historical style he must be prepared to accept the restrictions which such an acceptance imposes. However, let us examine a moment the most common walls



Two types of walls used successfully in a farm building—shingle with an end wall of field stone that "ties up" with the roadside and stableyard walls



Wall construction in this house at Marblehead was a deliberate effort to suit the setting—rough fieldstone laid in open bond tones in with the rocky foreground; vertical half-timber following lines of nearby trees; and the remainder stucco, a reproduction of the generally unobstructed atmosphere about the house. Charles M. Baker and Allen W. Jackson, associate architects

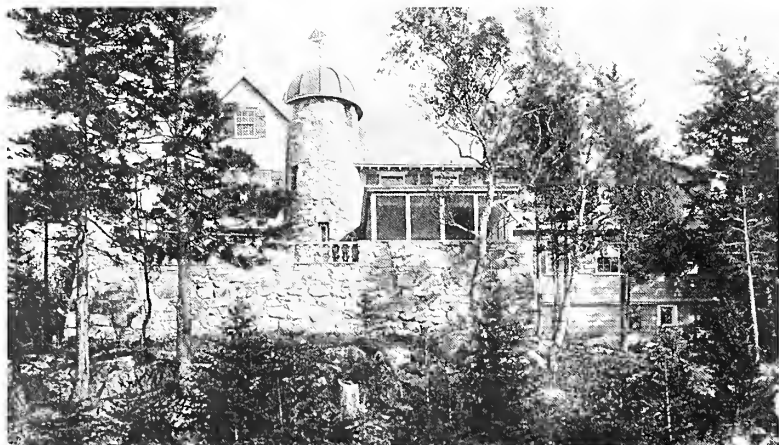
used in house-building, and not only their surface appearance, but also below the surface, and see how they are made.

The use of stone, perhaps the most substantial material, will depend upon the amount of money one wishes to spend. It is the most expensive of all the walls. The cost of stone will depend upon what the immediate locality of the building has to offer and whether or not we wish cut stone. Cut stone is the most expensive; then we have the split stones, and last, the field stones. The wall, in any case, is laid up in mortar, the stones being cushioned in place and the interstices filled with spatts and mortar, so that at the end of the wall, theoretically at least, is a perfectly solid mass of masonry with no air spaces. With a rubble or field stone wall, however, such perfection is too much to expect. As a matter of fact, our wall will probably let through enough moisture in a driving storm to make it advisable to take care of it on the inside. This is usually done by lining the inside wall with lath and plaster on vertical studs placed against the rough wall. This gives an air space which prevents any moisture from getting at the plaster or inside the house.

In the case of cut stone, only the facing stones are cut, and they are backed up for the remainder of the thickness by rougher stone or brick, the two banded securely together to make a solid wall. The inside plaster is then applied on lining studs, as before.

The use of brick for the walls of dwelling houses is daily becoming more common. This is largely due to the fact that while the cost of brick work shows a tendency to decrease, the growing scarcity of lumber in this country is causing the frame house to rise steadily in cost, so that from year to year there is a nearer and nearer approach between the two materials. At the present time there is a difference of from 10 to 15 per cent. When we weigh the two methods against each other we shall see that they really approach even nearer. The substantial character of the brick, its enduring qualities; its freedom from deterioration and expense for up-keep; the fact that it is fireproof, together with its superior esthetic possibilities, must be set off against the perishable nature of the wood, both from fire and decay, the necessary expense of up-keep, its vulnerability against change of temperature and general ephemeral, not to say flimsy, appearance. One is not apt to think of this latter phase of the matter until he chances to come from a prolonged stay in any of those countries where the frame house is unknown and suddenly finds himself surrounded by these large wooden boxes. They seem extraordinary and anaemic after the masonry walls of the rest of the world.

The pressed brick wall of the Victorian era, with its colored mortar, has departed. It was a smooth, characterless affair, of no texture or color, and has given place to the much more charming and sensible common brick. Of course, there is an infinite



Where clapboard and stone are effectively combined in a house of difficult position and unusual lines



All-over clapboard walls in a Dutch Colonial house where simplicity of wall treatment was most desired



Stucco and half-timber are almost invariably a successful combination, especially when, as in this instance, the walls are of differing angles giving a play of light and shade, and broken by windows of unusual lines

variety of kinds and a great many colors of common brick, and, to add to the variety of their wall surfaces, they may be laid in various bonds; the bond being the method of placing them in the wall. We may have each row of them laid showing first a side and then an end (the ends are often a different color from the sides), which is called Flemish bond; or we may lay several courses all sides, and then a course of nothing but ends. This is common bond. When the rows are laid alternately all headers and all stretchers it is called English bond. Then there is the more complicated English "cross bond," which makes an elaborate and beautiful pattern over the whole surface. Again, we may rake out the joints, and so by the

increased shadow accent these, or we may color the mortar—though it is seldom successful, if it match the brick. We have other more elaborate bricks, the so-called "Tapestry," "Hytex" and "Rug" being ex-

amples of a rough brick with which very rich color effects may be obtained.

So much for the appearance of the wall. Looking beneath the skin we may find a variety of structure. We may have the solid brick wall backed on the inside with vertical wood strips, over which is the lath and plaster. The strips serve to form an air space to keep the plaster away from the damp brickwork.

We may plaster directly on the brick inside if we make a hollow wall; i. e., a two-inch space inside (Cont. on page 63)



Uneven and rough as hand-split shingles may be, they weather well and lend an air of distinguishing artistry to a house



Where field stone and clapboard meet the connection can often be effected through the medium of a heavy, rough door



The bath tub should be set down solid on the floor without space beneath it where dust can collect

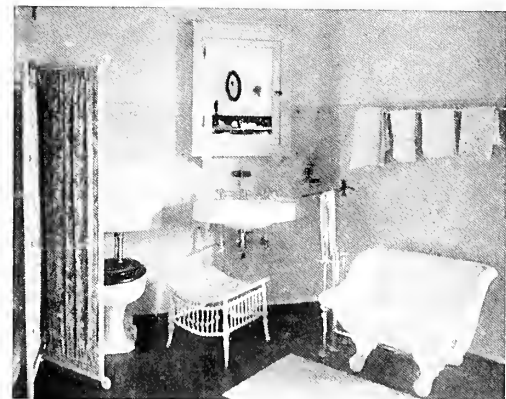
The same is true of any other fixture. In this instance the base of the shower bath would be a bother to the housekeeper

OF the many parts of the house, the bathroom may be said to be the one where modern efficiency has reached its highest point of development. Compact, sanitary fittings, easy to use and easy to keep clean, should



If the shape of the room will permit, why not build the shower as shown here

be installed, and their arrangement in the room should be determined with a view to the utilization of every inch of available space without giving the effect of stuffiness and overcrowding. Plenty of air and plenty of light are features that the competent architect will see to. Quite as important is the position of the various plumbing fixtures. They must be easy of access to both housewife and plumber. With no dark corners or awkward spaces to hinder, and with light and air to aid the housewife, the care of the bathroom can be reduced to the minimum. When one or the other is missing, the work entailed becomes a burden. You can generally



For flooring, tile is best, waterproof composition second, and wood third

measure a housewife by the appearance of her bathroom, just as you can measure the architect and the owner by its efficiency. A complete, efficient bathroom is an investment that pays interest in comfort and health. It is no idle saying that a house is known by its bathroom.

Complete and modern fittings, plenty of light and ventilation characterize the modern bathroom

Two-tone washable rugs are best for the floor, although they should not replace the bath mat





A low-voltage plant for a small house capable of supplying twenty-four 16-candle power bulbs, showing the simplicity of the complete plant

SERVICE SUPPLIED FOR THE FULL TWENTY-FOUR HOURS WITH THE GENERATOR WORKING ONLY A FRACTION OF THAT TIME—HOW THE ELECTRICITY IS STORED UP—THE COSTS OF A PLANT

J. F. SPRINGER

ELECTRIC lighting can be provided nowadays at reasonable expense for moderate-sized houses, and that service may be supplied for the full twenty-four hours without requiring the operation of the generating apparatus for more than a fraction of that time. Perfection of service and economy of operation are now combined. Country and city are alike the beneficiaries of modern progress in lighting methods.

Electric lighting can hardly be said to be a cheap system; but, despite its cost, it is to-day the favorite. There are many instances where electric lighting is secured through the generation of current by private plants located on the premises of the consumer. Except, however, where the current is consumed in lighting a hotel, an apartment house or group of such houses, the inconvenience in operating the equipment has probably hindered the introduction of electric lighting. Now, it is possible to have an electric lighting system of such a character that it is not necessary to operate a dynamo simultaneously with the generation of the light. With the electric storage battery, the current may in effect be stored up to be used when the dynamo is quiet. The storage battery is the equivalent of a tank full of electricity, but it does not afford a perpetual supply without being itself re-supplied. During the day, at one's convenience, the storage battery is charged by operating a dynamo. The battery then becomes a source of electricity, which may be drawn upon at any time desired. With the best batteries no attention is required during the period when the current is being consumed. In the practical operation of a small electric

lighting system, this feature becomes of very great importance.

A storage-battery system consists—apart from the wiring and fixtures—of four elements: a gasoline engine, or other source of mechanical energy, which is employed to operate the second element—the dynamo. The function of the dynamo is to generate an electric current, which, in turn, is employed to charge a storage battery. Finally, the fourth element is a switchboard, whose function is to provide a means of controlling the electric operations.

With an equipment of this character we have not only a means of lighting the house, but also a source of power applicable to other uses. The gasoline engine may be disconnected and operated to run various mechanical devices. If the mechanical devices are too far away or too scattered to permit the use of the gasoline engine as a source of power, then we may operate them by an electric current. Thus, current may be obtained by operating the gasoline engine and the dynamo in conjunction. Indeed, we may connect up the electric light wires and operate the lights in the same way. Then, we may use the whole plant and "store up" elec-



The storage battery room on the Harry Payne Whitney estate on Long Island, showing batteries in position. This is the other extreme from the plant shown above

tricity in the storage battery, which may be used to supply current for the lighting or the operation of mechanical devices. These several alternatives are not equally economical in respect to the cost of operation. For example, we can run a pump for less money by connecting it up to the gasoline engine than by using current from the dynamo or the storage battery. Again, we can operate it more economically by using current from the

(Continued on page 56)



A simple, livable, stucco hollow-tile house developed on the central hall plan, with eight main rooms



A HOUSE AT MISHAWAKA, INDIANA

Noel S. Dunbar, architect

The stair spindles were handwrought by a local blacksmith

The veranda is arranged to be closed in and heated for winter



The end of the living-room was arched to accentuate its length. It is finished in fumed quartered oak with brown walls



At the rear of the room is a deep, cream-colored cast mantel, modeled after an Italian piece, with old gold tiles



Being two steps lower than the dining-room adds a note of interest to the living-room



Peacock blue and tan are the dominant decorative color notes in the dining-room. One of the wall panels is hung on invisible hinges and covers a china closet. A breakfast porch opens to one side



Light from the Palladian window located on the stair landing fills the front hallway, space being utilized by thus building the stairs over the entrance



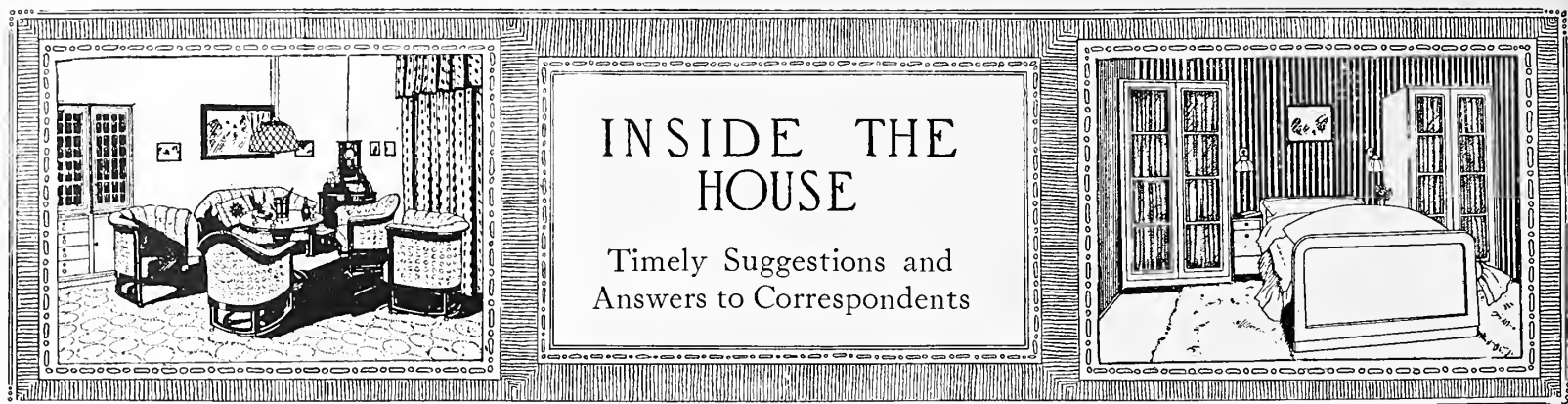
Arranged with a view to the saving of nerves and muscles, the kitchen is open, light, well ventilated and fitted throughout with all modern apparatus



Two large, built-in wardrobes provide ample closet room in the master's suite. A sleeping-porch, sitting room and bath adjoin



The woodwork and furniture of the guest room are finished in ivory, to which rose and dull green hangings give a touch of color



The editor will gladly answer queries pertaining to individual problems of interior decoration and furnishing. When an immediate reply is desired, a self-addressed stamped envelope should be enclosed. This department will also purchase any of the articles here described for subscribers living at a distance, or will furnish the names of the places where they may be obtained.

Clean Air in Winter

NEVER allow the air in your living-rooms to become stale or foul. If the weather is too cold to have a window or two open a little all the time, a good plan is to open up the house several times a day for a few minutes or long enough to blow out all the bad, foul air and make everything sweet and clean. It will be found, however, that by keeping one window open just a little all the time the air may be kept pure and fresh without increasing the coal bills and without producing discomfort.

If your cellar has a damp or musty atmosphere, set chloride of lime in corners, using earthenware receptacles, as it rusts tin or iron. The lime will have an odor of its own, but it will be a clean and wholesome one, and will soon disappear if the windows are opened wide on a breezy day. A musty cellar is one of the greatest menaces to health either winter or summer; and when vegetables and other eatables are kept in it, the danger is doubled. If one has a positive repugnance to the odor of chloride of lime, there are numerous excellent odorless disinfectants on the market.

Feasible Garbage Incineration

ONE of the most objectionable features of kitchen work is removed when modern methods of incineration are applied to the disposal of garbage. In addition, the menace to health is obviated. An incinerator that accomplishes its work thoroughly and without the nuisance of smoke and disagreeable odors must be efficient and thorough in its work. It must be durable and compact to be serviceable—simple in construction so as to be easily understood, economical to maintain and operate. It must control the heat so as to prevent radiation, and secure maximum efficiency. It must utilize its heat to eliminate offensive odor and smoke, and it must possess perfect combustion to consume entirely all waste in the shortest time, and prevent discharges of soot or unconsumed substances from the flue.

The general elements of construction of one that is giving favorable results are a perforated inner cast iron drum, enclosed by an outer cast iron casing. An air

chamber is formed between the two. The outer casing is surrounded by three insulated steel sheets, with spaces between each, forming three individual dead air chambers around the body of the apparatus, which prevent heat radiation.

A Bunsen gas burner is located in the lower portion of the inner drum. In connection with, and just below the burner, is an agitator grate, on which the refuse falls. Four perforated conical caps directly above the burners spread the flames so the refuse is simultaneously attacked at several points in its middle portion, and completely enveloped by the flames in its lower portion.

All parts are securely fitted within a solid cast iron top, base and front. The entire apparatus is properly insulated.

There are two types, portable and wall, each operated with gas.

The former is installed anywhere gas and flue connection is available. It can be placed in the kitchen, the draught connection being made with the range flue. If desired it can be installed in the refrigerator room or cellar. It does not radiate

heat nor scorch walls or woodwork. The wall type is installed in the wall or chimney brace, where a flue is accessible and gas connection can be made. It is recessed so its front is flush with the wall surface. This type is especially adapted for apartment use, and is recommended where floor space is limited. Complete details and blue-prints, giving size of necessary openings, furnished on request.

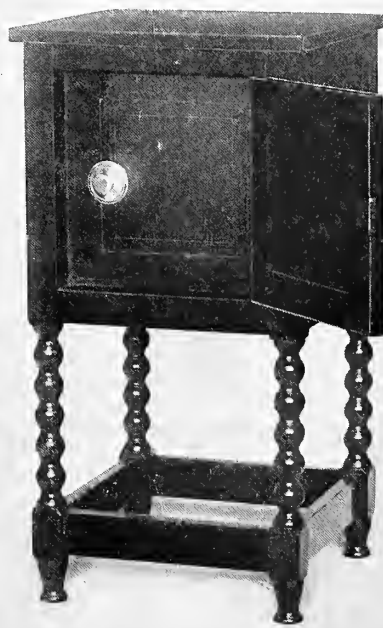
The method of incineration is perfectly simple. As soon as the burner is lighted the garbage is attacked from below by several flames. By means of the heat conductors connected with the burners the flame is first passed across the top of the refuse, drying and carbonizing it. The burning refuse produces a gaseous compound containing hydrogen and nitrogen. The oxygen, raised to a high temperature, is applied to this mixture, and a highly inflammable produce is developed and ignited. The combustion consumes odor, gases and smoke.

Time of incineration varies with the amount of moisture contained in the refuse.

If daily incinerations are desired, such accumulation of waste in the average household is consumed in about twenty-five minutes.

The Household Safe

SAFETY first is a common-sense idea, even when applied to such matters as family valuables, for no house is entirely burglar-proof, nor is any room impregnable to untrustworthy servants. In all well-regulated households the nightly carrying upstairs of the silver basket is an honored institution, because eminently sane. But what do most of us do with the silver when we get it upstairs? It may be hidden away in a secret corner, but that corner may prove of easy access to the light-fingered. For that reason a small over-night safe should have a place in the house. The type shown in illustration weighs about forty pounds. It is encased in a solid mahogany cabinet, a decorative object in the bedroom. It is forty-eight inches high, the regulation table height. The safe itself has a double steel wall, locked with a three-point combination. Inside are a drawer and three pigeon-



In appearance a mahogany table of distinct attractiveness, this safe will prove a secure place for the family valuables

holes. For the safe-keeping of jewelry and trinkets and papers of value such a safe proves its worth of service in the house.

A New Dishwasher

EVERY housewife knows what it is to prepare a nice dinner—to serve it tastefully—and to enjoy quietly the keen pleasure manifested by those who partake. She also knows that shortly after, the age-old problem of "washing the dishes" must be faced, and it is "back to the kitchen" again.

To make washing the dishes a quick job, to eliminate the use of the hands in greasy dishwater, to wash dishes rapidly and thoroughly with no danger of breakage—to put the whole problem of washing dishes on a safe, sanitary and really efficient basis—all this is the object of a dishwasher that is being shown in the shops. It consists, first, of a container, funnel-shaped at the bottom, resting on wall supports, or on a portable base, as preferred. It is made of a heavy metal, which more closely approaches a non-rustable material, with a free cleaning surface, than any other.

The container is entirely open within and perfectly free of any pockets, posts, perforations, valves, etc. Food particles cannot clog within it, or cause an unsanitary condition; they easily pass through the drainage outlet.

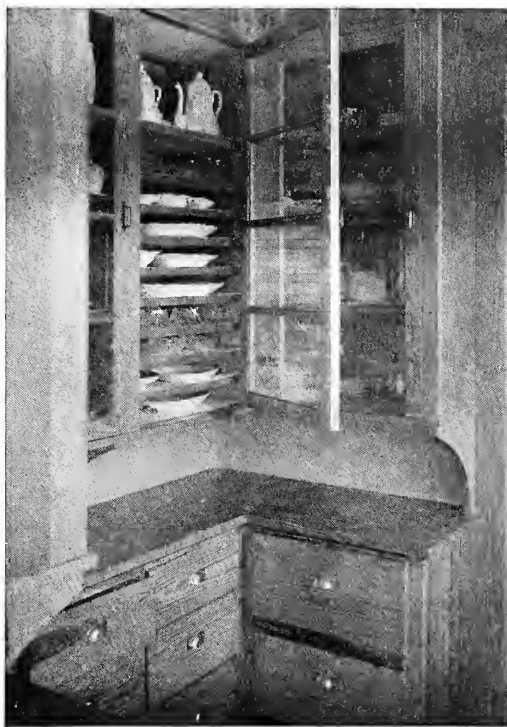
In the funnel-like bottom of the container rests the "dasher," which turns continuously at the rate of three hundred and forty revolutions per minute. It makes nearly three complete revolutions with one movement of the lever, which permits fast operation. Operating the dasher results in the water being continually thrown from the bottom upwards, in a slanting direction, on all the dishes, actually washing off all food particles. The dasher forces the water up through and between all the dishes, none escaping its force. The dishes are not sprayed, or sprinkled, on

one side only, but are thoroughly washed on both sides.

The dasher is made of aluminum, which is so easily kept clean, cannot rust, and, being a strong, yet light, material, has no unnecessary weight to impede its action. To operate the dasher requires only a brisk motion of the lever.

Inside are arranged wire trays resting one above the other that hold the dishes. In the center is a compartment for knives, forks and spoons.

Simplicity characterizes the use of such a washer. Having placed the soiled dishes



The simple arrangement of shelves not only saves space but does much to lessen the possibility of breakage

in the trays, turn on the water—or pour the water into the container, drop in a small piece of soap or some washing powder, fasten down the lid and push the lever back and forth. This operates the dasher and pours the water over the dishes. Take out the trays when drained and dry. A few minutes' work will accomplish what used to take the greater part of an hour.

A Place for Silver

IT is to none less than to Hepplewhite that home decorators owe a debt for a neat contrivance in which to place silver, a device that is being seen again in the shops. The silver urn of our grandmother's day is coming into favor once more, and its practicability more than ever is evident. As shown in the illustration, the case holds a set of knives or forks, each with its separate compartment. The lid sits down well and is secured with a lock. Some have hinged lids. Made of mahogany with high or dull finish, these urns have a singular decorative value on sideboards and buffets of the period of

Hepplewhite or in any dining-room whose decorations are akin to that style.

Save the Crockery

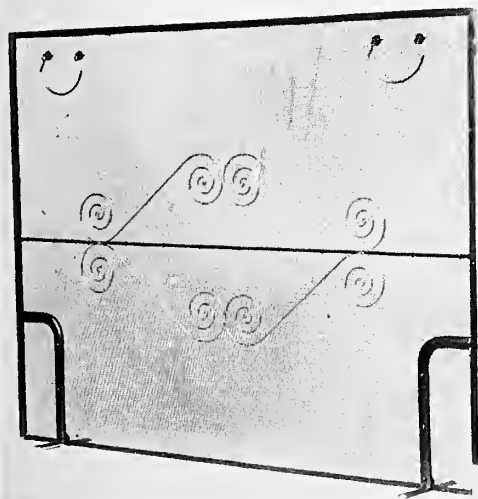
FREQUENTLY it is not more space that is required to increase the efficiency of a cupboard, but a more careful division of the space already possessed. In our accompanying illustration is shown a compartment in a butler's pantry recently built. It is devoted chiefly to platters. Instead of being piled on top of each other or set on end in the ordinary fashion, each platter has a shelf to itself. The shelves are no more than four inches apart and are adjustable. This simple arrangement not only saves much space, but prevents breakage, as dishes cannot be slammed together by a careless maid. A similar device could easily be introduced into any cupboard.

House Plants

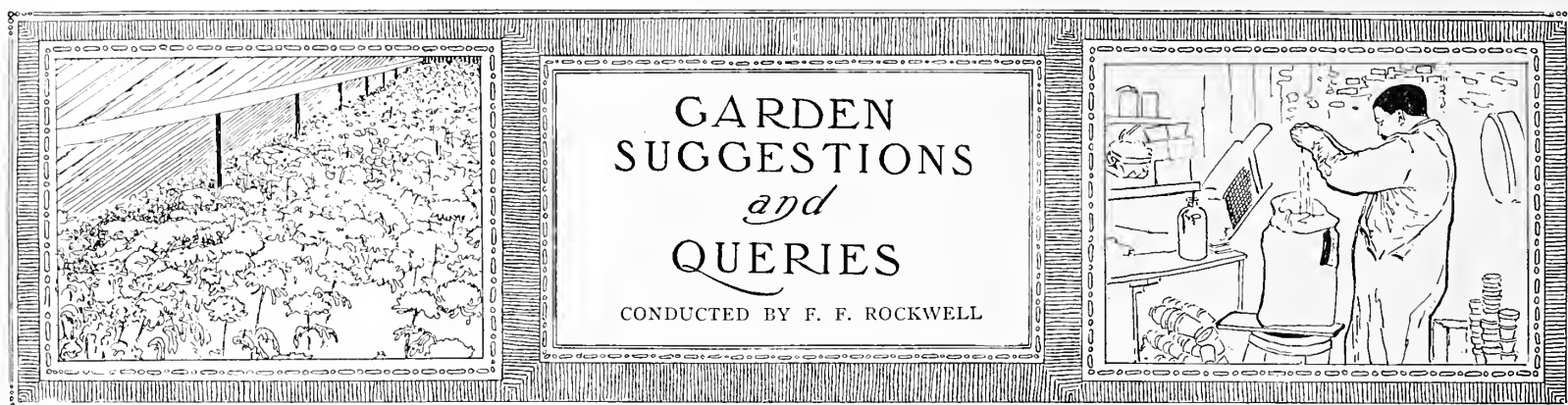
HOUSE plants need clean air, free from dust. This is also necessary for the household. A room in which sweeping is followed by a deposit of dust upon the leaves of the plants is too dusty a room to live in safely. The sanitary sweeping method should be followed. The floor should be sprinkled before sweeping, or a damp cloth be tied over the broom so that no dust will rise. Such a change in household methods will keep the plants clean and at the same time preserve the family from the contagion of colds and coughs, often caused by germs lurking in the dust. Besides this, the plants should be showered once a week in the sink or the bath tub, turned down on their sides so that the under parts of the leaves, too, are clean. When this is done and the plants restored to their places they will evaporate a deal of moisture into the air, freshening and improving it; and a vessel of water always filled, on the stove or radiator will aid in keeping the atmosphere fit to breathe both by plants and people.



A silverware container from a design by Hepplewhite



An unusually handsome fire screen for the hearth



WITH the beginning of the new year comes the usual flood of new resolutions so easy to make—so seldom kept. Those of us who are interested in gardening have the same temptation to plan, in a general indefinite way, far too much, only to find ourselves surprised again at the end of the year at how little we have actually accomplished. And yet there is something inspiring and stimulating about the fact that it is the beginning of a new year, of which we should take advantage. The trouble usually lies not so much in our “biting off more than we can chew” as in the fact that we are apt to cut off such a big slice that we don’t even know where to take the first bite. So in regard to this coming year’s garden resolutions I would make the following suggestions:

Plan but a few improvements.

Make those plans very definite and concrete.

Get them down on paper in black and white at once in as detailed shape as possible. Try that plan this year, now, and see if at the end of the twelve-month you

have not made more progress than in any other previous season.

BEGIN GARDENING NOW

Contrary to the general belief, January is the most important month, so far as the success of your vegetable and flower gardens is concerned. Next month, if you want early results from either vegetables or flowers, you will have to begin the work of starting plants. Before you do this you must, however, get your seed. And before you can order your seeds intelligently, and to accomplish just what you would like to accomplish for the following summer’s gardening, you must have a definite knowledge of where each thing is going and of just the types and varieties you want. And before you can know these things accurately you must have thought out carefully a plan for the position, the amounts and the varieties of all the vegetables and flowers you expect to grow. That means work—diligent, painstaking work, without the exhilaration of spring smells and swelling buds around you. In making your plans for this summer’s work, if you have had a few seasons of garden experience of your own, you will be able to judge from that to a large extent just what to put in and what to leave out. If you have kept any kind of a record or diary of your various garden operations to show dates of planting and harvesting, height and time of blooms of flowers, varieties that you have found especially attractive, and so forth, you will find this of the greatest use in planning your work ahead. In fact, without some such accurate basis to go by, it will be impossible for you to make your plans with any definite assurance that you have got things just right.

In case you have neither several years’ experience nor a season’s personal record of this kind to guide you, by all means secure at least one good book on flower-garden making and another on vegetables. No matter how many magazines you may be taking, you will find a book well worth while. Naturally the magazines have to

follow more or less closely the work of the month. But to plan your work ahead for the season you need information about the whole year’s work ready for immediate reference. If you have kept, as most readers do, your copies of *HOUSE AND GARDEN* for the past year you will have a great deal to guide you which may be gleaned by looking through them again at this time. It is a good plan also to secure a generous supply of catalogues, as very many of them contain useful information put in a way that will be of material help to you.

PROPAGATE PLANTS NOW FOR BEDDING OUT NEXT MAY

Young plants in prime condition, that are just the right size for setting out in the spring, to bloom vigorously all summer, can be had by starting them from slips or cuttings. Even with a limited amount of room you can start quite a number of plants this way. Plants from such flowers as you may have in your house or green-



As soon as the small roots form, replant the slip in a pot of rich soil



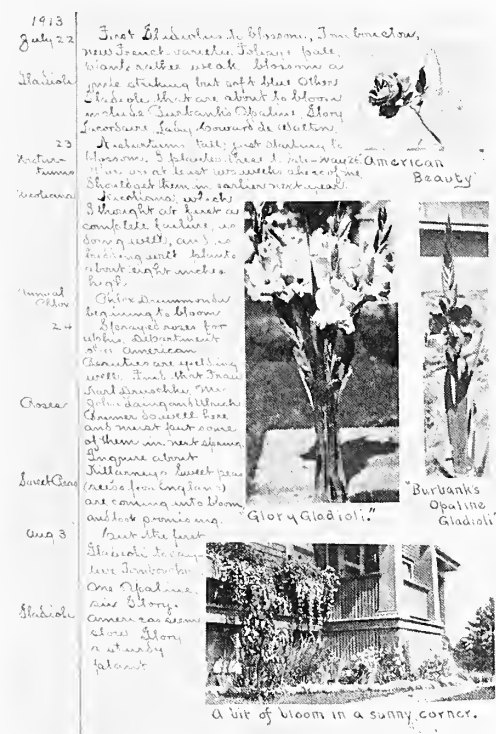
Do not allow the new roots to reach this stage of maturity before transplanting

house capable of being propagated in this way have several advantages over those started from seed. They bloom practically from the start, often even while the new roots are forming; they are sure to come "true," as they are in reality the same plant, while many plants from seeds are apt to vary more or less from type, both in color and in freedom of bloom. Two things are essential to make it worth while for you to start your plants in this way—plants that are in a healthy, vigorous condition of growth, and some place where you can keep the slips or cuttings at a fairly even temperature of 50° to 55° while they are making their new roots. Old, neglected or spindling plants will not furnish the right field for good cuttings or slips; and if they must be handled in a room or frame that gets too cold they will either root very slowly or fail to root at all, while too high a temperature will cause them to run up and make weak, spindling plants. To root quickly, the slips must be in just the right condition of "ripeness" or hardness. If the wood is too new or soft or too old and tough it will not root satisfactorily. To determine whether the wood is in just the right condition, bend the branch at right angles; if it "snaps" without breaking clear off it should root readily; if it bends or doubles up without breaking, it is too soft or too tough. Cut the slip off clean at a slight angle; trim off the leaves close from the lower half of it, and if the remaining ones are large, cut them back about one-half. The cuttings may be from 2" to 4" or 5" in length. To root the cuttings, fill an ordinary flat full of clean, medium coarse sand, with a layer of drainage material at the bottom, and give it a thorough watering. After any surplus water has drained off, mark off rows about 3" apart, more or less, according to the size of the cutting, and insert the cuttings, one at a time, to about a third of their length, taking care to have the sand packed firmly about each one. They may be set as close together as they will go without crowding. Put the flat in any convenient warm place, and all the care that will be required during the next few weeks until they begin to root is to shade them for a few days from bright sunshine. After that, keep them watered often enough to prevent the sand from becoming dry at any time.

If only a few slips are to be rooted, a still simpler method is to fill a water-tight dish, preferably a flat, rather shallow one, with sand and water and place the cuttings in this. Keep the dish in a bright, sunny, warm window and add water frequently, so that the sand never gets dry even on the surface. Whichever method is used, as soon as the small, new roots form, the plants will be ready to be taken out of the sand and put into small pots or into one large pot of rich soil. This should be done when the new roots on the slips are still short. The sooner you can attend to them after they push out beyond the edge

of the callous which forms over the cutting, the better.

If old pots are to be used for the cuttings, give them a thorough scrubbing to clean out the pores before placing in the slips. If either room or pots are lacking, the rooted slips may be placed, for their first shift, in an ordinary "flat" of soil, putting them about two inches apart each way, shading them as before for a few days from the bright sunshine to prevent their wilting. Among the plants which may be propagated in this way are geraniums, heliotropes, begonias, fuchsias, lemon verbenas, patience plants, snapdragons, salvia, coleus, petunias, lobelias, tradescantias, and a number of others.



Such a garden diary as this, with its record of successes and failures, should be of material benefit next season

MATERIALS FOR STARTING SEEDS

The first seeds for the early garden should be started in February. Unless you have everything ready for this work you should give it your attention before the end of the month. If you neglected last fall to take in sand and soil for this purpose you may be able to get some now from some local florist; or, if you prefer an hour's good, stiff work, take a pickaxe and crowbar and wheelbarrow and go out into the garden and pry loose half a dozen good-sized chunks and put them down in the cellar near the furnace, where they will gradually thaw out. In the woods, even after the ground is frozen, it is usually possible to get leaf mould without very much trouble, and a little sand, if any is to be had, will be found very useful also. Then you will need some flats. A number of these may be made in a half hour's time

with saw and hammer from soap or cracker boxes; they should be from 2" to 3" deep, with cracks left in the bottom or holes bored in them, to assure good drainage. When you are ordering seeds include also a supply of tags or labels; 100 painted 5" wooden labels will cost you but twenty cents or thereabouts.

TAKE STOCK NOW

Before you get ready to send in your seed order it is also an excellent plan to look over your various garden tools and order anything which you need along with your seeds. The advantage of doing this is that the seed houses usually carry a good deal larger line of garden tools than any local hardware houses, especially tools of the best quality. With care and the amount of use they ordinarily receive on the home place, good tools of this character will last a lifetime—or at least until the children lose them. You can, for instance, probably get a trowel for ten or fifteen cents, while a good one will cost you fifty or seventy-five, but the former will probably not last you the first season through and will be pretty sure to give way some time just when you are very much in need of it, while the latter not only will outlast several of those of the cheaper grade, but will give you much greater satisfaction in its use during that time. With even a moderate-sized garden it will not pay to stint yourself in regard to hand implements. Mark your tools when you get them, and keep them all in one place, preferably a place that can be locked. One of the little garden necessities which may seem a luxury is a real garden "reel and line," but a reel and a hundred feet of braided line together will cost but one dollar, and, while it may be possible to make just as straight a row with "a piece of string," I doubt if you can invest a dollar in any other garden tool which will be more likely to help the appearance of your garden.

KEEP A GARDEN RECORD

Why not start a Garden Diary the first of the year? Keep a brief record of dates and items of interest, such as when you were able to plant your sweet peas; when the first rose bugs appeared; when you had the last frost; when you planted your various seeds for succession crops; which flowers proved to be the greatest successes as tall backgrounds, and what flowers pleased you as edging plants for borders or beds. Do not go too much into details, but simply jot down notes which will aid you in your next year's work. The diary should result in "A Line-a-Day Book," though it will not be necessary to write literally a line each day.

Snapshots of your flowers in various stages of growth will add considerably, both in interest and beauty, to the appearance of your pages, and will at the same time be of practical value in later years.



EDITORIAL



THE HOUSE NOT MADE WITH HANDS

THERE, sirs, you have read of it—the house that is made with hands. For if thus far you have followed these pages, you have witnessed the idea of a house being crystalized into a material entity. You have had your choice of country houses and learned how you and your architect can best work together; you have seen to the gardens that can surround it, the hardware, the plumbing, the lighting, the closets for the wife, the sturdy walls and the roof; and you have planned the truck patch in the back of the yard where you will help Nature on Saturday afternoons give body blows to the high cost of living. It's an interesting process, this building a house from the idea up. To read of it brings stimulus; ambition is awakened. When you lay down the magazine you make a resolution that some day you will have a house, or if you have one, you will make it better.

Much the same materials are being used to-day as were used centuries ago. We have improved on them; we are making things more comfortable according to our concepts of comfort, and more sanitary and more lovely to look upon, but each generation brings its own improvement in the measure of its added wisdom over the generation that has gone. The bathroom that was a luxury of yesterday is a necessity of to-day. Yet back of all building and building improvement is a mightier force than that of steel and stone and concrete. The house to-day is the product of ages of improvement in customs. Customs make houses what they are to-day; they are the architects and masons and carpenters of the house not built with hands.

Houses, a recent author claims, were made primarily to shelter and protect the child. Was it the tree-house of the tropics or cave-house of the mountain dwellers or the hall of the sturdy folk of the north, for the child's sake a home was devised to protect it against the heat of summer and the cold of winter. Sociologists are only now awakening to the fact that the love of father and mother for child antedated the love of husband and wife.

From the cave dwelling developed the hall—or cave above ground—and from the hall came the modern house. Traces of the influence of the cave as a model may be seen in the construction of the hall. The hall stood east and west, with the door in the western end giving less access to cold winds. The roof was pitched high so that the smoke could arise above the eyes. The lines of the roof were irregular, so that a foe would mistake it for a grass-grown mound of earth. The entrance was through the western gable, whose lintel was so low and threshold so high that no enemy could enter without difficulty. There was a window, too, in the center of the roof, through which the smoke passed out, and where stood the guard in times of danger. It was one big room without partitions or stories, and all the furniture was what we call built-in. In those days the sign of a man's strength was that he could tear the furniture from its fastening! A table ranged down the middle of the room, with a bench on either side, the middle of which was raised above the level of the rest and reserved for the master of the hall and his wife, the distinguished guest sitting opposite. As this was situated near the fire, it was also a place of great comfort. Two sacred things were in this house—the high posts, usually decorated with carvings of the gods, that separated the master's seat, and the cord

that closed the roof window in hours of danger. It takes no great stretch of the imagination to build up from these rudimentary things our modern master's suite in the house, and the custom of locking up the house at night!

The desire for privacy—an acquired custom—brought about the division of the hall into rooms. The women's seat on the long bench marked the place where a partition was erected, and that space further subdivided into sleeping boxes or "lock-beds"—little more than closets into which the sleeper locked himself. Another partition or wall was erected parallel to the west gable, making a space that was divided into four rooms, two above and two below. One became an entry, one a storeroom, another a sleeping place. Thus the sleeping places went from the ground floor to their present positions upstairs.

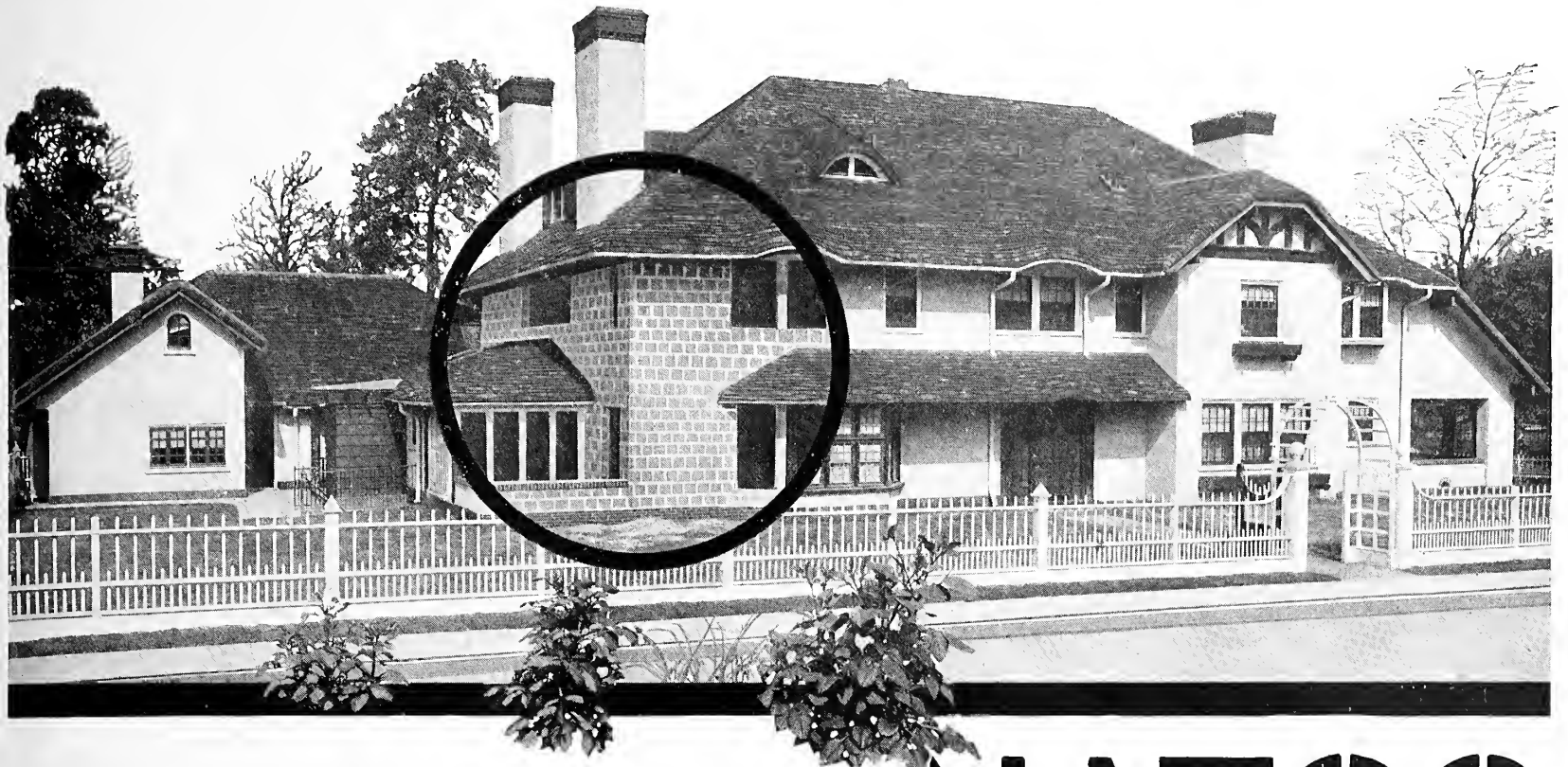
When the life of the family became too complex for the rooms inside the house, other buildings were erected close by. Thus there was the guest house—still used to-day on some large estates; the seething-house for cooking, which can be seen on Southern plantations, an improvement on which is being advocated in a community kitchen and bakery of the town of to-morrow; bath houses, constructed near springs, to which water was conducted in stone pipes, barns, byres, stables, sheepfolds and pigsties.

The fireplace was built to conserve the fire when wood began to grow scarce, one fire a day being built, and the hearth left to radiate heat the remainder of the time. From this grew the stove. Toward it was moved the seat of honor—for even as to-day, honor in the home spelled comfort.

With the subdivision of the one large room came the necessity for smaller movable furniture, the type of to-day. Ornaments grew from the bow and arrow and spear and the trophies of the chase to things of utility and decoration. Business customs required a knowledge of the time, and thus came into use the hour-glass, and then the clock.

Although in such limited space only a few of the simplest facts of the development of the house can be touched upon, it is evident what romance lies behind us and how custom has been fashioning through numberless centuries the house not made with hands. But the work has not ceased, and, as customs change, so will the house. One can only conjecture what the house of to-morrow will be. We have not yet completely solved the problem of dust, nor do many houses have elevators that eliminate the wearying climb of the stairs. Democratic customs becoming more widespread have made the servant question threaten the feasibility of a separate kitchen for each house. Heating facilities have also not reached the state of blissful perfection. The apartment house has done much to eradicate some inefficient and uneconomical evils, but it has lost, in the process, much of the old charm of the separate house. Nor can the time ever come when men will be content to have their home lives completely regulated by machinery or guided by community regulations.

The house not made with hands is not alone the product of people's customs, but of an owner's individuality. Each man builds his own house unseen, a house of sturdy walls not made of brick, roofed in with other things than slate or tin, windows fashioned of more than wood or metal and glass, and rooms made habitable with furniture no artist can create. For to each house made with hands is one made not with hands. You can see it—if you have the vision of the intangible.



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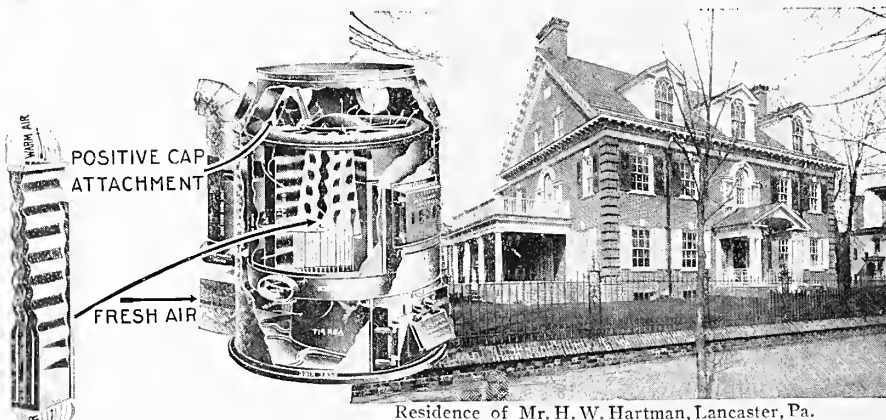
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Landscape Gardening on a Small Lot

(Continued from page 20)

walls catch and hold the heat of the sun and make it comfortable to sit in even late in the fall, while the pine tree furnishes just enough shade to make it a pleasant afternoon lounging place even in the warm days of late spring.

The terrace is sheltered on the north by the house, from which it is approached through a small conservatory. The stucco pilasters and wooden beams of the conservatory make it a desirable winter substitute for a pergola. On the west the terrace overlooks the flower garden. The other two sides are enclosed by walls. Opposite the conservatory the wall is raised to give privacy from the carriage drive of the neighboring lot. The monotony of a solid wall is changed into a feature of much interest by an arrangement of three panels. Two are filled with Della Robbia singing boys, the center with a brick wall fountain. The fountain provides an architectural feature which is particularly good in its placing opposite the conservatory door and in its location near the pine tree which overshadows it. A wall fountain is an economy of space, but the smallest amount of water has value in a garden, and the tiniest trickle a lively effect. The three flat, arch openings in the other wall allow the green of the back shrubbery to enter into the composition. This wall gives the effect of seclusion, while the openings in it suggest something of interest beyond. It is a transition between the formal terrace and the informal back lawn.

Jasminum nudiflorum planted under the conservatory windows has bright, yellow flowers very early in the spring. Snowdrops, *Iris reticulata* and English primroses are planted in the sunny nooks at the foot of the wall, and white Chinese wistaria climbs over it. The annual vine, *Cobea scandens*, gives a delightful lavender bloom in the fall, and English ivy planted on the shady sides provides the winter interest.

The terrace is a pleasant out-of-door room. It is comparatively small, but the wide, open view of the flower garden and the broken glimpses of the back lawn make it quite big in feeling, if not in actual extent.

The central arch of the wall opens into the back lawn. On either side are informal shrubbery borders. The ground under the shrubs is planted with bloodroot, Solomon seal, trillium, crocuses, squills, violets and other spring flowers. It is a substitute for a rock garden which shows what charming simple effects can be developed on a small place if thought is given to the intensive use of every corner. In the shrubbery itself, the main masses are composed of lilacs, snowberries, *Euonymus alatus*, *Cornus alba* and *Kerria japonica*. The lilacs provide abundant spring bloom, the snowberries a

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charming autumn effect. The brilliant red branches of the Cornus and the vivid green stems of the *Kerria* give a very effective winter contrast.

At the farther end of the lawn the vista is terminated by a wonderful old spruce tree backed by a semi-circular lattice. A row of white stepping-stones leads from the terrace to the spruce and turns at right angles to enter the stable court. Even in this court the winter effect has been thought of; the bright red of barberries is contrasting with the black berries of Regel's privet.

Doorways and Their Approaches

(Continued from page 23)

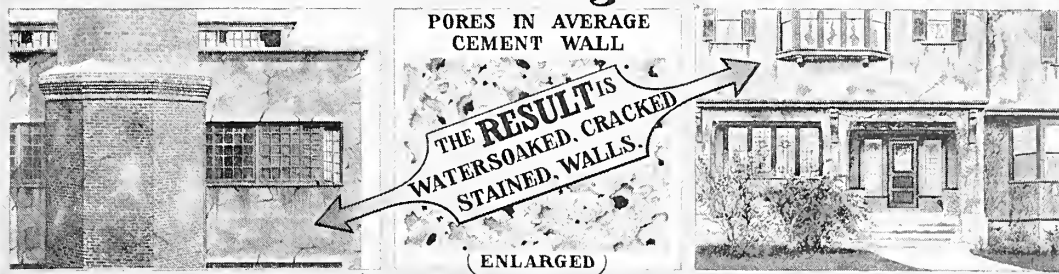
consciously develop a family garden on the side of his house opposite the street, the full completeness of this attractive picture is seldom realized.

Even when the house of open plan has its entrance and hall thus arranged, modifications are possible, merely by interposing a vestibule, for instance—a needed element in northern latitudes—it is easy to break up the over-intimacy of such an entrance. The entire plan—including the south garden—can be realized and exclusively reserved for the use of the house occupants by arranging a reception (plan B) room, entered from this vestibule, to catch and hold the casual stranger. Or the vestibule can be enlarged to form a larger space, a small entrance hall, if you will; perhaps graced with a grate or fireplace. If entered, for instance, from the side instead of the front (plan C), such a hall would prove the cheeriest of welcomes to a desirable visitor in a way that is utterly impossible when he is at once thrown into the larger stretches of a "living" or "staircase" hall, with all its consequent drafts and the discomforts of passing necessary from the uses to which such a room is subjected.

In this later suggestion we more nearly approximate the English, rather than the American, ideal. But is not that, after all, the path that is already being discovered and traced by our American home-builders? This is being used instead of the door placed smack in the middle of the house, perhaps defended by a small porch with columns, side lights on either side and top light that was, twenty years ago, unavoidable in every house of Colonial aspect. Such a porch as this was always approached by a flight of steps at least three, more often four, frequently five, and occasionally six in number, thus elevating the house a considerable distance above the lawn and permitting that doubtless desirable—but seemingly inconsistent household companion—a "light and airy basement"!

But this advantage has also been found to be obtained at somewhat too great a cost. Stilts have never proved a sightly aid to locomotion. If we were living in prehistoric times, the tree-built dwelling

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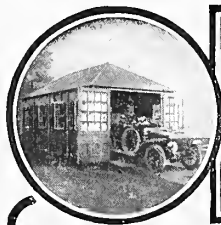
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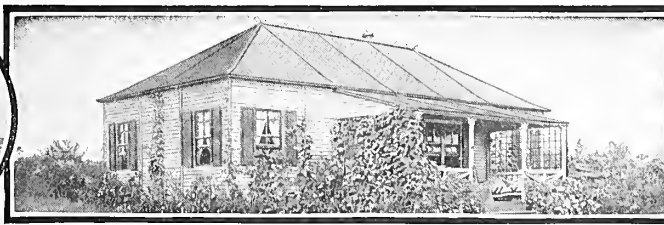
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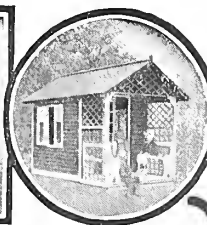
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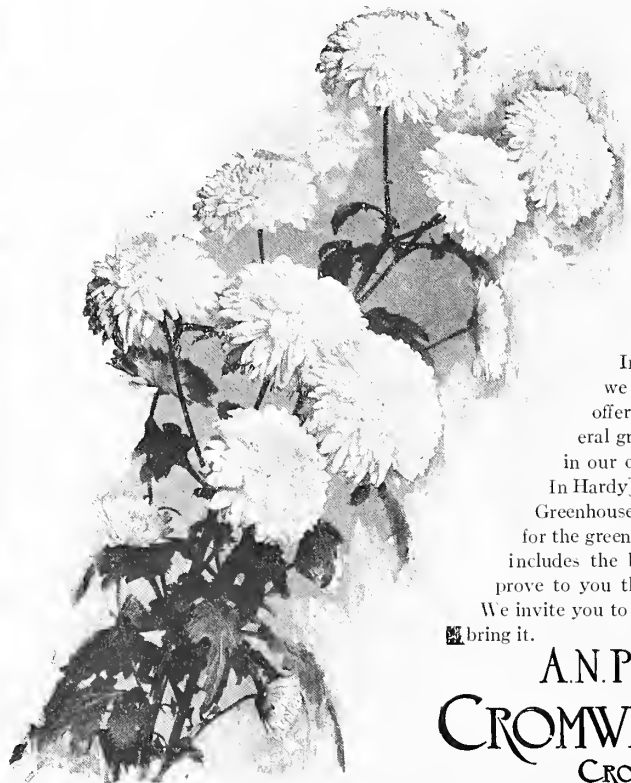
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might prove to be of considerable advantage for purposes of defense—just as to-day, in tropical climates, the elevated house is a necessity because of spring freshets and fall inundations—but in more civilized communities, neither necessity remains apparent, and there exists every æsthetic and personal reason for decreasing the distance separating the first floor of the dwelling from the ground without. Contrast, if you will, a house placed so low as to have but one step from porch floor to grass lawn, with a house with a higher approach; and try and analyze for yourself the reasons for its appearing so much the more attractive. Putting extenuating circumstances of all other sorts to one side, you will be surprised to find how



The modern German type of entrance adds character to this plaster house

overpowering and attractive an element is the close relationship established between these grade levels. It naturally follows that to-day every effort of ingenuity is used to relate the house first floor as nearly as possible to the grade of its site. If one step from grade to porch is possible, with another step from porch to door, nearly the ideal solution has been arrived at. Perhaps two steps from porch to grade are absolutely necessary; even so, it is sometimes possible to make these steps so broad, with a buttress at each end so flat that they are hardly more than obvious to the approaching visitor. Especially is it possible—since the "spindly Colonial" period has shown signs of passing by—to avoid those prim upright columns of glaring white that formerly defended the doorway and held the venturesome intruder at good arm's length. Again, it is possible to so soften the house entrance; to recess it within the face of the dwelling rather than project it beyond that face; so blending it in color into the wall treatment that one feels still more successfully the near relation between dwelling within

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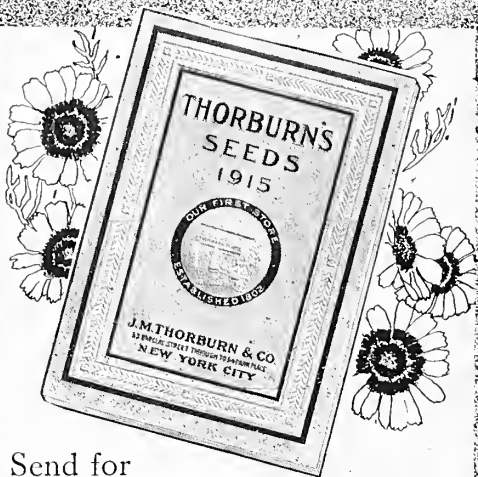
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and without the house. By such means can be indicated the healthier outdoor life of our suburban communities, the near relation between Mother Earth and our living habitations, the greater dependence placed upon outdoor air and exercise rather than on indoor living.

Finally, as to the door itself! Gone, the inevitable white doorway of yesteryear, and gone along with it is the sounding brass, so difficult to keep clean, and the betraying smudge of Bertillion finger prints on the white paint around knob and key-hole. In their place we find more frequently a door of natural wood, stained, to the informal and somewhat more dashing vigor of cypress or the more polished and refined veneer of walnut. With such doorways have come the duller gleam of bronze or the attractive feel of wrought iron for hardware. Instead of the garish top and side lights, too often used as an excuse for more dinky and fussy ornamentation of interfoliated glass, we have a framework of sufficient strength to hold the door firmly and graciously within its setting. A sense of protection for those standing without the threshold may be provided by a simple hood, architecturally related to the frame of the door, or sometimes even more successfully tied to the down-sweeping lines of roof eaves of timber. Occasionally even a less formal shield for the doorway can be provided by secluding it between seats, thus seeming to provide shelter and proffer hospitality at one and the same time. Sometimes the still greater informality of lattice can be utilized to support a roof for protection and seclude the caller for the few awkward moments he is waiting for admission, a seclusion that can still further be increased by a judicious growth of vines; or the location of adjacent flower beds of tall, old-fashioned hollyhocks.

Sometimes the doorway is recessed actually inside the front wall of the building, allowing one to enter through an inviting archway of brick or plaster; sometimes a modest and unpretentious top light, or a light of glass glazed somehow within the design of the door itself, permits a glimpse of the interior, or provides those within the door an opportunity of scrutinizing the one waiting without. By breaking away from the old Colonial plan, with its inevitable center door and entrance, it becomes possible to nestle the main house doorway unostentatiously into the shelter of some projecting bay, or to tie it into the lee of an equally protecting chimney.

All this, too, serves to reflect our acceptance of the English idea of the entrance doorway being, after all, an inconspicuous and—on the street front, at least—a comparatively unimportant part of the dwelling. It permits one to enter or leave the house with the utmost of simplicity and the least amount of pretension. Rarely does the garish *port-cochère* become a part of the English home problem; certainly never in the way it flaunts

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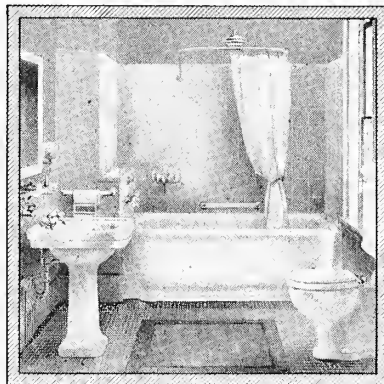
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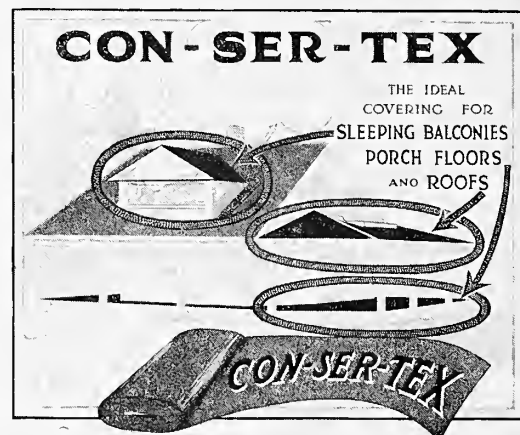


Residence of Walter M. Collins, Builder, Bayside

itself on the face of our American dwellings. If carriages or automobiles are a real element in the life of the owner, he takes them more as a matter of course far more simply. His house is then of a sufficiently greater extent to make a carriage arch a possible solution, particularly if placed at the entrance to his stable yard; or a separate court and side door for this purpose is an element to be provided in the plan arrangement of his dwelling. It somewhat answers the same purpose as the old-fashioned side door of America. That door opening directly into the garden, the one most convenient of access to the neighborhood caller—full grown and running over, when no one had leisure or time to deviate by the unused routes of the formal "front door" when leaving home for school, for business or for pleasure. Formerly, no American home was complete without it, and in restricting ourselves—as we are now apparently willing to do—to two doors, one the "front" entrance, and one the "back," we are recognizing a distinct striving for a different sort of life, obtained by a loss of intimacy of family association which, at least, our English contemporaries have not yet recognized.

The English house, of even modest size, often provides this intimate doorway. There it opens perhaps from the back of the house (it must always be remembered that in the most English houses the living portion is on the opposite side from the street, and the service portion at one end, with a doorway that goes upon a service yard and towards the street as well) directly into a garden—or orchard, if the place be suburban and of sufficient extent. Around this door, never more than a step above the greensward beyond, hinges the real life of the English household. Such a door is of a different character altogether than the house necessarily presents upon the street. Oftentimes it is nothing more nor less than a French window, sometimes a pair of them, swinging wide open the house to the porch or closed to shelter the hall from the over-brusque outdoor air. Sometimes this doorway enters into the hall, sometimes directly into the study or living-room; and often it is supplemented by a similar entrance connecting dining-room and porch, permitting of tea or luncheon being served in the outer air when the weather warrants.

Why should we Americans voluntarily relinquish all our dearly derived prerogatives? If the side door is admittedly too informal a relic to remain in the American home life of to-day, why can we not at least substitute the garden doorway, which remains the distinctive element of the garden front of every English dwelling, no matter how lowly or small a cottage that dwelling may be? How many houses in America possess their garden frontage, even when of the more pretentious class; or, for that matter, how many American families possess even a pretense of that garden, which itself would pro-



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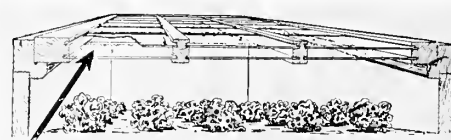
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Cost, Texture and Design in Roof Planning

(Continued from page 34)

course is, more expensive, but worth the difference in the resulting mellowness and richness.

And now we are confronted with the subject of roof design in relation to material and texture. There is an inseparable and inviolable connection between the design of the roof and the design of the rest of the fabric, a connection and established fitness that none but a madman would dream of transgressing, even did structural conditions admit of such action. While conforming thoroughly to all architectural canons, there is, nevertheless, endless opportunity for originality in the treatment of roof design. Just because of this large liberty, one or two final cautions seem not amiss to ponder over. Do not set too much store by the pictorial aspect of the roof lines. Attractive skyline is an important feature and available asset, but it should be achieved as the logical outcome of well-proportioned plan. It is impossible to create a beautiful body upon a bad, misshapen skeleton. So, also, is it impossible to design a really well-massed house with a good and fitting skyline, that will stand the test of searching criticism from all points of view, unless sound and reasonable plan be the underlying basis governing all considerations.

Architect and Client

(Continued from page 21)

naturally causes the owner to worry; but it is so in every business to-day. The efficiency of the contractor is not under the architect's control; that is unfortunately determined by selecting the lowest bidder in some cases.

The contractor is employed by the owner to execute a contract through the architect, who acts as the owner's agent, but without any impartiality. The completed plans are usually given to five contractors for competitive bids, and usually the contract is given to the lowest bidder. If the five bidders are equally reliable, this is a safe method; but if two of the five are, perhaps, men who do a cheap class of work, their bid may be ridiculously low compared to the others. Sometimes the low bidder discovers after starting the work that he has figured too close to the cost to perform the work as required with any profit to himself. This mistake is likely to cost him several hundred dollars, and he will, of course, endeavor to save this amount wherever he can see an opportunity, unless the architect observes every deficiency and has it corrected. Therefore, it is customary to insert in the specifications this clause: "The owner reserves the right to reject any and all bids," so, if he wishes to, he can advise that the contract be awarded to the next lowest bidder, or to the man whose ability and reputation are the best.

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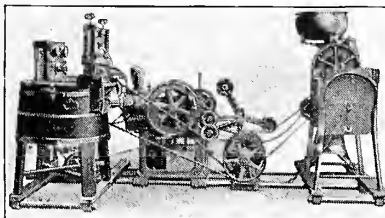
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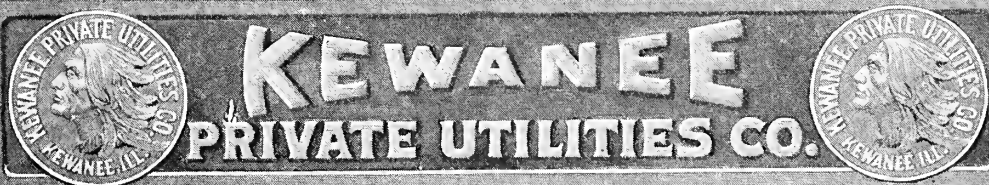
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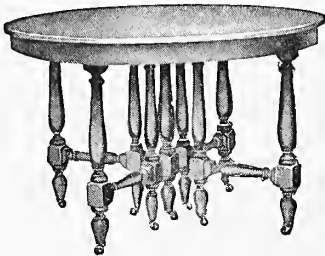
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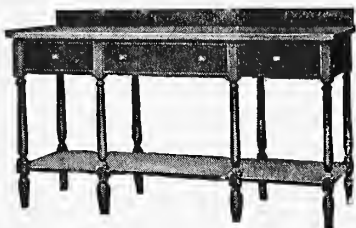
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Many houses are being built to-day on what is called the percentage plan. This is similar to the old method of building a house "by the day." I have developed a new way that has worked so far very well.

The contractor agrees to erect the building for from ten to five per cent of its cost—the percentage is smaller as the cost increases—and agrees that its cost will not exceed a fixed amount, which is determined by conservative estimate. This assures the builder a legitimate profit—which he deserves—and in return he is to give his attention to pushing the work, purchasing the material specified as cheaply as possible, taking all discounts and favorable terms, subject to the approval and directions of the architect. I check this system by having a printed form, which the foreman reports on each day, giving the number of men at work (not under a sub-contractor) and all material received at the job that day. The supervising architect or his assistant checks that list each day. At the end of the month the material bills come in and are checked against the daily reports. The lowest market rate for the material is checked and the bills paid when correct. Usually the sub-contracts for plumbing, heating and electric wiring are let, at a fixed price, with a schedule of unit prices for any extra work, while all the other items are put under a general contract on the above basis. The method insures a first-class job at the lowest cost, if the method is carried out and the work pushed, as the control is vested in the owner through his architect. I have tried this scheme even on a large steel and concrete commercial building, and had it work perfectly.

The business should be handled through the architect, the builder addressing the owner through the architect, or the owner the builder in the same manner. Monthly payments on the work should be made direct to the contractor upon the certificate of the architect to enable him to pay and discount all bids, as in any other business.

The superintendence is one of the most important duties of an architect. The plans and details may have been carefully prepared, but, through careless workmen, costly mistakes will occur in their execution unless their interpretation is carefully watched and continually explained by the architect. Such mistakes can only result in loss and annoyance to all the parties concerned; therefore, an extensive knowledge of the dozen or more trades, practices, materials and the cause and effect of mechanical forces are essential to the architect's training. He should also be a just and impartial referee between the owner and builder.

To a familiarity with details must be added quickness of perception and soundness of judgment that make it impossible for any faulty work to escape his notice, and to guard against any waste of effort or of time; and, having rendered a de-



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cision that is in accordance with the contract and specifications, he must adhere firmly to it. To trust too much to the generosity of the owner or to the liberal intentions of the builder is a mistake.

There must be a clear understanding as to what the owner is to receive from his builder, and also what is due him from his architect set forth in a written contract. The contractor should clearly understand that the work is to be done strictly in accordance with the drawings and specifications; that the materials are to be exactly as specified; the workmen are to be competent, and that the builder himself shall exercise care and watchfulness to prevent errors, as well as having a competent foreman in charge of the work at all times. Any material not in accordance with the specifications which is delivered at the work shall be rejected and removed at once, and any work not in accordance with the drawings and details or specifications shall be demolished or removed before crowded aside or covered up with other work; this is covered by contract and specifications.

With a good feeling of co-operation established between the contracting parties and the architect, the work should proceed smoothly. Decisions should be promptly and impartially made, and all such decisions, notices and orders issued in writing, and handled in a businesslike way from the office of the architect, who, if up to date, will keep proper accounts of the cost of the work—that is, the amounts contracted and the amounts paid to each contractor as the work progresses, rendering a statement of the same to the owner each month, so that he may at all times know its cost.

It will be advisable for the owner to take the time and trouble to visit the architect's office frequently and examine the drawings and details of the construction of the work, so that he may clearly understand what they are intended to represent; and, by comparing sizes of rooms, doors and stairs, he will not be disappointed as they assume shape and proportions during the erection of the building, or want to change them to conform to recently obtained ideas. This does not mean that the owner should spend daily in the architect's office two or three hours having him explain all the details that enter into his business, or into the general construction of a house. After the owner and his family decide that the plans are exactly what they want, they will be saved the cost of many extras from the changes due to their lack of comprehension in the first place, which are a menace to the work, as well as expensive and confusing.

After signing the contract, arrangements are usually made for the architect, owner and contractor with a surveyor to stake out the house in its proper position on the lot. When this is done the excavation is started, and the work may be said to be fully under way.



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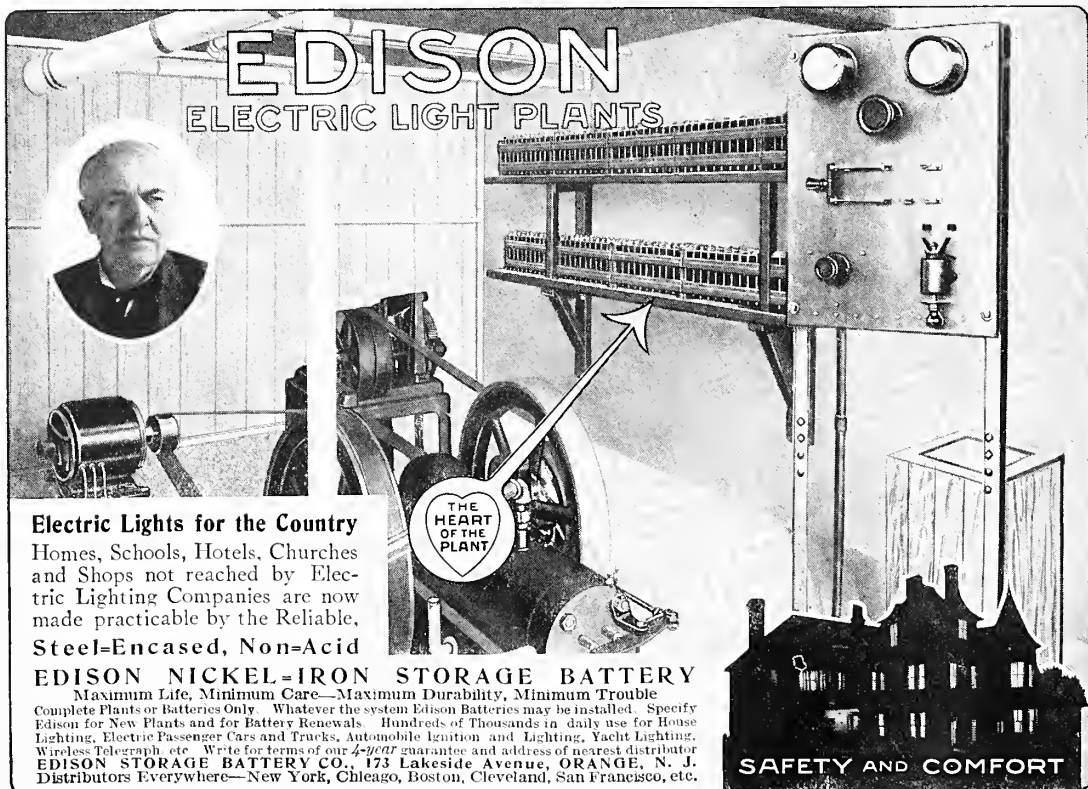
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SAFETY AND COMFORT

Storage Battery Lighting for the Country House

(Continued from page 39)

dynamo rather than from the battery. The fundamental reason underlying these facts is the consideration that every change of energy involves loss. We have a certain amount of energy locked up in the gasoline. When this is converted into mechanical energy by the engine we lose something. When this mechanical energy is converted into electric energy by the dynamo there is another loss. And, finally, when we "store" energy in the battery and use it as current later on, we lose once more. A good grasp of this principle will make for the most economical operation.

With regard to the first cost of a plant, much depends upon the service required. The gasoline engine may be an item already possessed. Or, there may be available some other source of mechanical energy capable of operating the dynamo. The following statement will give the costs of the various items for a plant capable of maintaining twenty-four 16-candle-power bulbs. The battery is one of the best on the market:

1 2½ horsepower gasoline engine...	\$72
1 30-32-volt dynamo	70
1 storage battery containing 24 cells..	192
1 switchboard.	50

Total..... \$384

A smaller plant, capable of maintaining half the number of bulbs, is estimated to cost, if we include a 2-horse-power engine at \$60, a total of \$308.

The storage battery does not, perhaps, actually store electricity; but it does the equivalent. To get this clearly fixed in the mind it will be well to consider what takes place in the battery while being charged and while being drawn upon. A battery consists of a number of cells electrically joined so that the whole is in effect one cell. It will be sufficient, therefore, to give an account of a single cell.

In one of the most prominent types the cell is encased in a water-tight container made from nickel-plated sheet steel. The principal joints are made by welding the edges of metal and allowing the material to intermingle. This is accomplished by the oxy-hydrogen or the oxy-acetylene torch, and the seams are accordingly very tight. Inside the container are two groups of plates interleaved with each other. One group is in effect a single positive plate; the other, a single negative plate. The two compound plates are immersed in an alkaline liquid. At no point of submergence are the plates in electrical contact with each other or with the container. The liquid consists of distilled water in which potassium hydrate has been dissolved. The positive and negative plates consist essentially of extensive total surfaces of nickel hydrate and iron oxide.

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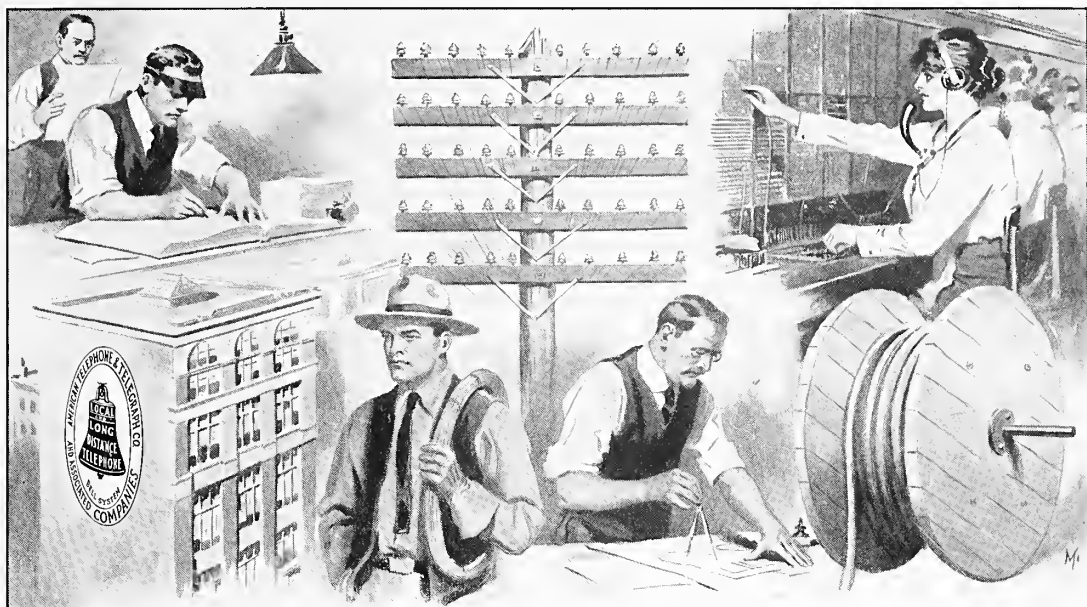
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When the two plates standing in the liquid are connected on the outside with the corresponding terminals of a source of direct-current electricity the iron oxide will begin to lose its oxygen, the tendency being to leave the iron in a pure state. In addition, the nickel hydrate will take up oxygen—I do not say the same oxygen as that let go by the iron oxide—but the result will be roughly equivalent to a transfer of oxygen from the negative to the positive plate. As the current of electricity is “pumped” in from the outside we will have at last pure iron in the negative plate and oxydized nickel hydrate in the positive. The work of charging will be completed upon this condition being thoroughly attained. The cell will now be disconnected from the external source of current. If the two poles of the cell or the two poles of the connected system of charged cells in the battery be now connected with the terminals of an electric circuit a current will begin to flow through the circuit. The oxydized nickel hydrate will begin to lose its oxygen and the iron will begin to suffer oxidation. The oxygen will now make the return trip. It is the flow of electric current now set up which maintains the lights and performs other functions allotted to the storage battery.

In this type of storage cell the individual leaves of the compound positive plate are perhaps the most interesting feature. These consist of a nickel-plated grill to which have been attached numerous perforated tubes, having a length of perhaps 4 or 5 inches, and of about the same thickness as a lead pencil. The tubes are formed by spirally twisting a ribbon of metal, the edges folded together in such a way as to make a mechanical seam. Around each tube are several little bands of metal. The tubes are made of steel ribbons which have been nickel-plated after perforation, and the little bands are also of steel. Thus strength is supplied in the character of the material. Considerable strength is needed because the nickel hydrate swells during the charging process, when it is receiving oxygen. The contents of the tubes include not only the nickel hydrate in the form of a green powder, but also flakes of metallic nickel. There is a layer of the one material, then a layer of the other, and so on. The layers are incredibly thin. There are, in fact, about 700 of them in a tube not more than 4 or 5 inches in length. The desirability of having thin layers of nickel hydrate proceeds from its poor electric conductivity. Everywhere the hydrate contacts with nothing else than nickel. The alternate layers are nickel, and the walls of the tube are made of a plating of nickel flakes. In a moderate-sized cell there will be 60 tubes, of which 15 each are attached to a grid, the whole forming the positive element. The leaves of the negative plate consist of grids to which packets of iron oxide have been secured. These packets have perforated covers.



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The perforations in the walls of the receptacles belonging to both the positive and the negative plates are for the purpose of admitting the liquid of the cell, a solution of potassium hydrate.

The type of cell described in the foregoing is one of the best on the market, the manufacturers guarantee that it will be capable of developing full rated capacity, even at the end of four years. Such cells may be charged and used thousands of times. But there are other types of storage cell. In another prominent device, the liquid employed as an electrolyte is an acid or an acid solution. This is a notable difference. The positive material is lead, the plates being formed of chemically pure rolled lead by a swaging process. This mechanical method of forming the complicated shape required is deemed a great advance over the old procedure of coating or skinning or plowing. The negative plate is also formed by the swaging process. Swaging is an old system of forming metals while in the cold state. It is quite successful in many applications; and probably has not received the development of which it is capable. It proceeds by inflicting multitudes of light blows one after the other. These blows are delivered by mechanical means, and may number hundreds or thousands per minute. The effect is that the metal flows slowly and assumes the form desired. A gold-plated rod may be swaged to form a much smaller rod without damaging the integrity of the gold covering.

In using any type of storage battery, it will be well to employ tungsten lamps instead of the carbon filament bulbs. Electrical energy is estimated in watts; and when we pay a public service corporation our bill is figured on the basis of the number of watt-hours consumed. An ordinary carbon filament lamp will require about 3.5 watts of energy per candle-power. The tungsten lamp requires only about 1.25 watts per candle-power; that is, it consumes only about one-third the current used by the carbon filament lamp. A 16-candle-power tungsten lamp will accordingly require a current of 20 watts. Now, if we know the voltage of the individual cells in the storage battery, we may determine the voltage of the battery by simply multiplying by the number of the cells. It is assumed here that the cells are connected in series; that is, that the positive pole of one cell is connected to the negative pole of the next, and so on throughout the battery. The one positive pole and the one negative pole thus left unconnected at the ends of the battery will constitute the poles of the battery regarded as one cell. If each cell has the power of discharging a current at 2 volts, a 16-cell battery will discharge at 32 volts. Ordinarily, it will be desirable to operate at this voltage or at 110 volts. The lower voltage will enable lamps to be operated at a maximum distance of 300 feet from the battery. Where the distance is greater, it may be well to use the higher voltage.



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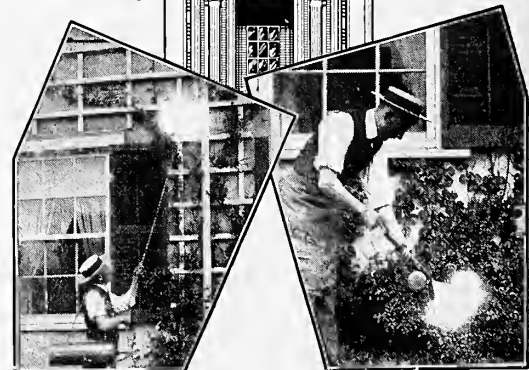
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The Choice of Domestic Hardware

(Continued from page 17)

the choice of hardware ought to be made by studying its fitness for each individual place it is to appear. From numerous illustrations and reading anyone with a fairly observant eye and attentive mind may readily recognize the characteristics of the hardware belonging with the several architectural types, and will then be in a position to make a wise choice, keeping in mind the general principles previously set forth. It is manifestly impossible to say of one piece of hardware that it is bad or good without reference to the place it is meant for, unless its design or structure be uncompromisingly inferior.

In conclusion, a word must be said about the available sources from which to make a choice. We turn naturally to the architecture of the past for present inspiration, and so it is also in the case of hardware. It would be impossible, of course, to find any sufficient supply of old hardware, even were it desirable. A certain number of old pieces are just as good now as when they were made, but most pieces bear irreparable marks of wear. The old hardware, however, can be most valuable in supplying us with models and standards of design that may either be copied or judiciously adapted to present needs. For this new hardware we may either employ the labors of the craftsman—and there is no place in which a little of the craftsman's skill will show to better advantage—or we may make a selection from the stock of the manufacturer. Some of the latter, while structurally excellent, is purely commercial in appearance and of unmitigated Victorian banality of design. A great deal of it, however, is of excellent pattern, and by a little care in selection one may obtain, from a wide variety of possibilities, thoroughly satisfactory results at an extremely moderate outlay.

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Your Type of Country House

(Continued from page 13)

tile roof and shutters to match in color. A long, gentle-rising lawn with a solid background of foliage forms an adequate and happy setting. The large arched window groups in first story intimate an arrangement of principal rooms of most generous proportions as to size, as well as height of ceiling—a house well adapted to social functions. Painted interior finish dictating furnishings and furniture of quality and richness are essentially fitting for this type. French windows for the ground floor and either swinging or sliding sash for the second floor are salient necessary features.

6. A balanced formal type with white stucco exterior walls, having red brick corners, white eaves and trim, shingle roof and green blinds further suggesting its Colonial antecedents by the disposition of windows and chimneys and the architectural embellishments of the eaves and entrances. An open level lawn between large engaging trees affords an ideal setting. In plan, the second story extends over the first-story porch, and obtains maximum bedroom accommodations well suited to the needs and comforts of a growing family. This type demands painted woodwork for its interior finish and sliding sash windows divided up into smaller lights. Instead of white stucco for the exterior, shingles laid 10" to the weather, or clapboards painted white or red brick laid up in white mortar are equally possible.

7. A formal type suggesting Colonial precedent, in this case with white stucco exterior, having painted white wood cornice balustrade, corner pilasters, entrance and porches with green blinds and painted green tin roof. Wide siding or shingles painted white in place of stucco, or all red brick laid up in Flemish bond in white mortar for exterior, with white shutters and wood trim, are alternative consistent mediums of external treatment, provided the element of cost so dictates. A terraced hillside shelf or level lawn contained by large trees affords a proper setting. The arrangement of principal rooms would be that of a central hall extending through house, with living-rooms on one side and dining-rooms and service on the other side. A decided leaning to Colonial mahogany furniture would be essential to harmonize with the mandatory white painted interior finish. Sliding sash windows with sashes divided into small lights are essential.

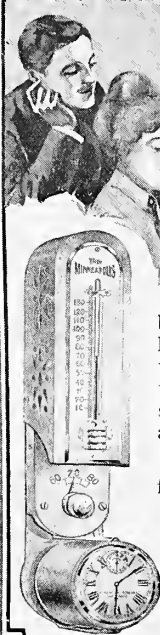
8. An unbalanced white stucco type of house suggesting the Modern English by its group of mullioned windows filled with all leaded glass swinging sash (no blinds), a graduated and variegated green and purple slate roof, brick chimney tops and stone entrance porch. The setting is fittingly upon a level grass terrace some distance back from the street on an open lawn, but

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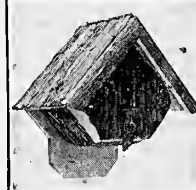
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one well sustained by luxurious foliage. The large groups of windows suggest and consistently demand wood paneled walls with a stained finish for the principal rooms and painted finish for bedrooms and service portions.

9. Here an open hillcrest frontage with a falling-off wooded hillside to the rear affords a setting for a low, long, formal mass, with the rear stepped down into a formal garden contained among the trees and overlooked by a loggia extending across the rear of house. Again, only a suggestion of the Italian type asserts itself by the white stucco exterior, tan-brown tile roof and blinds and entrance hood details. The exterior suggests by its first-story window grouping principal living-rooms of generous proportions. The use of both stained and painted wood interior finish is eminently fitting, and calls for rich and interesting furnishings and furniture.

10. A supremely simple small stucco type with tile roof relieved only by a well-detailed entrance, flower boxes and balanced side porches. Its exterior, which is frankly two stories, expresses modest home comforts, and would lend itself to either the light painted or dark stained interior woodwork. This type could be expressed in an all-wood exterior of wide-lapped siding or shingles painted white, or by the use of brick with white trimmings and shutters.

11. A more formal balanced type of white stucco house, with light-brown tile roof and shutters to match in color, suggesting of an Italian feeling by its simple mass, plain, low roof and arch motive lending an effect of height in first story. This type admits of the stained interior woodwork and the more heavy, substantial hangings and furniture.

12. A small, balanced type of white stucco house, Colonial by suggestion in the detail of its entrance and side porch, and chimneys and form of roof and dormers. A type where adequate attic space lends itself to increased number of bedrooms. It is essentially a house calling for white painted interior woodwork and mahogany furniture and simple, quaint window hangings. This design would be equally consistent in red brick, laid Flemish bond in white mortar, with white shutters, eaves, porches and window trim, or by substituting white shingles laid 10" to the weather, and green blinds.

13. An irregular, simple, white shingle type, with green roof and blinds to match, designed in plan to be built in a group of two forming a balance by merely reversing same plan. The plan is such as to bring the ends of house containing service portions adjacent, thereby giving greater isolation to the living quarters. It is a distinctly two-story house, offering all the varied adjuncts to home life. Simple, painted or stained woodwork interior finish are consistent with this type.



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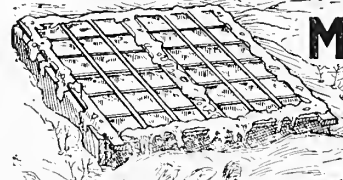
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The Saturday Afternoon Garden

(Continued from page 31)

general purposes, mixed barnyard manure is the best. It should have been kept under cover and forked over until it has become fine and shortened and is thoroughly rotted, without any signs of burning or fire-fang, which will be indicated by a light, gray, ashy appearance. Wet manure is likely to be of less value than that which is fairly dry.

Another thing to do now is to address a half dozen postal cards to the leading seed houses, so that after your garden plan is definitely made up there will be no delay in getting of the order. To be on time, some of the early vegetables will have to be started the first part of next month.

This is the first of a series of articles which has been especially prepared for HOUSE AND GARDEN with the idea of creating a more widespread appreciation of the possibilities of developing small places. Everybody knows what landscape architecture has done for the large estates of this country, but its place in the creation of small places is but little understood. For that reason there will be presented a series of small places done by such landscape architects as Mr. Harold A. Caparn, Mr. Henry V. Hubbard, of the firm of Pray, Hubbard & White; Mr. Charles N. Lowrie, Mr. Prentice Sanger, and Mr. Sibley C. Smith, to be followed by work of Miss Marian C. Coff, Miss Elizabeth Leonard, Olmsted Bros., Mr. Arthur A. Shurtleff, and others.—EDITOR.

Useful Closets in Unusual Places

(Continued from page 25)

basket belonging to the mistress of the house. It was a welcome spot to place the little odds and ends always to be found in every home; moreover, being out of the ordinary, it lent an air of individuality and distinction to the room. The top of this window-seat, like all others in the house, was hinged to raise upward that the interior space might be used for storage.

Passing through the den again on our way upstairs, one is attracted by a shallow closet over the fireplace-mantel, with little, jig-sawed grills over the glass, through which can be seen dainty, hand-painted china within. This illustrates an often-neglected opportunity. As the smoke-chamber of a fireplace generally narrows at the rate of one foot to each two and one-half or three feet of height, there is usually space at the front and sides of the chimney breast that may be utilized. Often useful little closets at the sides hold dust-pan and brushes, so convenient to have nearby when the hearth needs cleaning. Another seat in this room had the usual provision for storage beneath it, and in the partition wall above it a shallow series of closets for books with jig-sawed grille doors like those over the fireplace-mantel.

Upstairs there were several other closets of interest. In the hall a big double linen-closet with drawers below contained all the extra bedding for the whole house, while in a small closet nearby were kept

all the brooms and cleaning implements, making it unnecessary to bring any up from downstairs.

The principal guest room and the master's room were much alike, both being cozy, with a fireplace, reading-table, built-in seat in a jog at one side of the fireplace, and book-shelves set into each side of the chimney breast. The principal guest-room connected with another, slightly smaller, through a large closet at one side of the fireplace. Such an arrangement is convenient for a visiting family, especially when there is a child, giving them a suite in which they may enjoy the privacy of their own home. This closet was provided with hooks and hangers on one side and with shelves and drawers on the other. When only one guest-room was in use this closet could be given to either room by locking the other door.

In this room were also two large wardrobe closets, one for the master and one for his wife, both electrically wired so that opening the door put on a light and closing the door extinguished it. In a corner at one side of the fireplace was a small medicine closet, the usual wall cabinet of the bathroom being reserved for toilet articles exclusively.

In all of the chambers the space under the low eaves, so often wasted, was sheathed inside, partitioned off and provided with doors so that nearly every room had its closet for trunks and traveling-bags. When they are so conveniently at hand, packing for a journey is robbed of half its terrors; there is no labor of getting them down from the attic, nor danger of their rusting or mildewing, as when in the cellar.

These eaves closets were of value, also, in the children's nursery for large playthings. One of them was even arranged as a miniature room, with tiny furnishings. The tops of the built-in seats between bookcases were all hinged for storage of games underneath, and a small wall-closet held the more precious small toys.

All things considered, this old, re-modeled house has better closet provisions than most new ones. Everything seems to have been provided for, with the result that it is no task to keep every room in an orderly condition. Intelligent forethought in this matter, as in this instance, will do more than almost any other one thing to make housekeeping a pleasure and to ensure a lasting satisfaction in the home. The additional expense of providing such closets as have been described, and which you do not already have, is relatively inconsiderable by comparison with the comfort they give, and if included when building a new house they add virtually nothing to the total cost. Skimp not on closets is good advice; go the limit, and you will never regret it.

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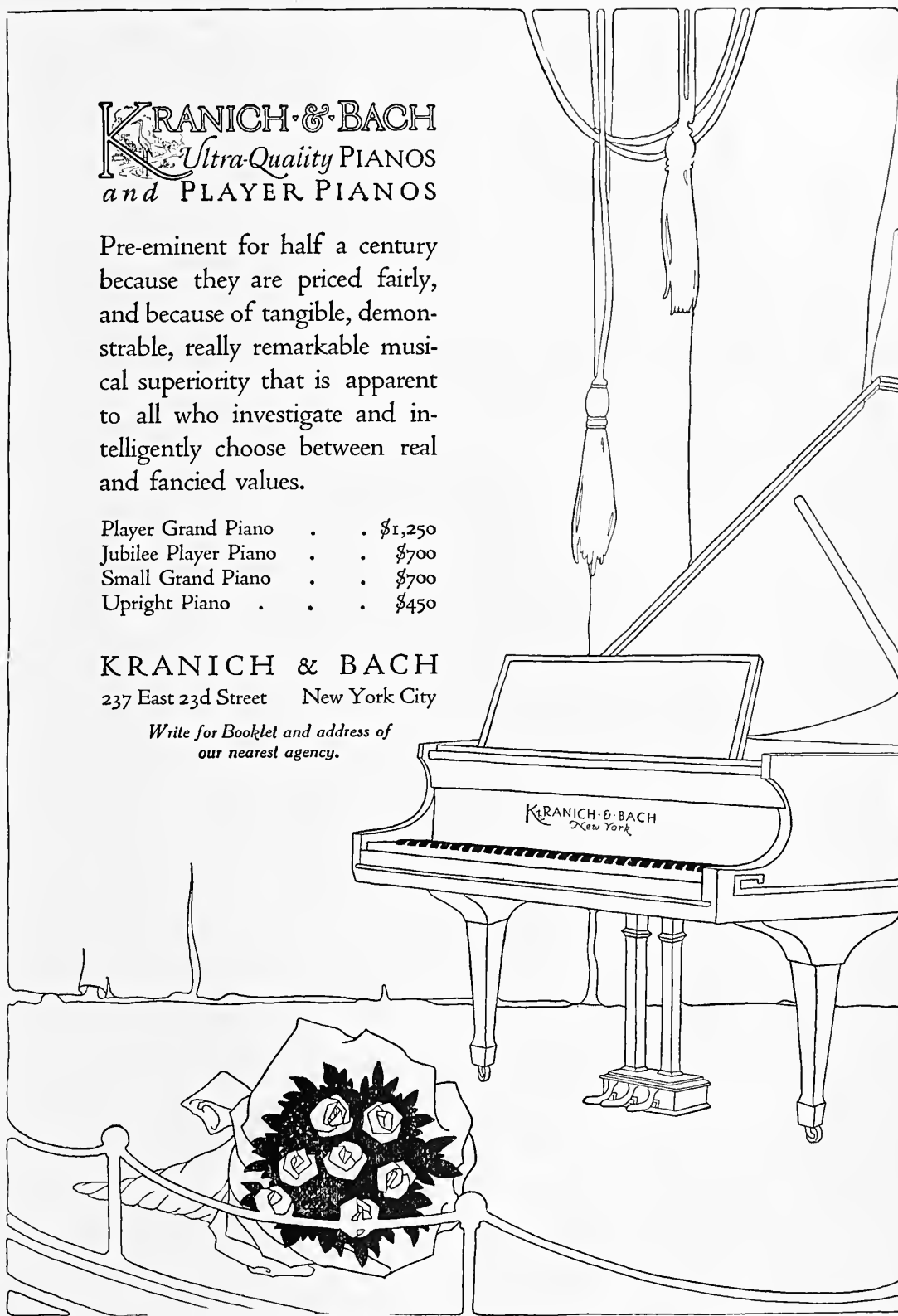
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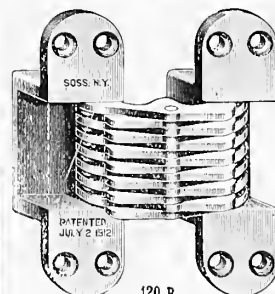
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Walls From the Outside In (Continued from page 37)

the wall itself between the inside and outside brick, which, hollow, serves to stop moisture from getting through to the brick on which we have placed our plaster.

We must tie our two walls together in the same way, either with a spanning brick at intervals, or better, iron ties built into the joints as the wall goes up. Of late years it has become a common practice in building a twelve-inch wall to make the outside eight inches any desired brick, and the inside four, a hollow terra cotta brick bonded to the other to make a solid wall.

A cheaper form of wall that is a compromise between the frame wall and that of masonry is the brick veneer wall. In this method the studs are erected and boarded as for ashingle or clapboarded wall, but against this outside boarding is built a four-inch brick wall secured to the boarding behind by metal ties built into the brick joints as the wall goes up, and fastened to the boarding.

The commonest type of wall is the wooden stud, wall lathed and plastered on the inside and on the outside covered with one-inch boarding, and either shingles, siding, clapboards or plaster.

Of these walls, the clapboards are the cheapest, unless we are to consider the future cost of keeping them painted. The siding is about the same, and we may stain this if we like. The shingles, which are slightly more expensive, should also be stained, unless we elect to save again, and allow the weather to lay on its own stain with its wind and rain. Cypress shingles and red cedar are the best in this case. The claim made by certain stain workers that their stains act as a wood preservative have foundation, although its importance may be easily exaggerated. In no case should shingles be painted with lead and oil paint, as decay sets in much earlier.

If we are a little tired of the shingle wall as we see it around us, we may get a much better effect if we use the hand-split cypress shingle of the South. While these shingles are more expensive by the thousand, they are very much bigger and thicker, and we may lay them more to the weather, the 7 or 8-inch covering more surface than with our ordinary 16-inch shingle. For this reason, the cost is only slightly greater. The butts are seldom cut at right angles to the sides, so that when laid we have them giving us a broken line of shadow which is much richer and softer than the thin mechanical look of the other.

The plaster wall or, as it is sometimes called, "cement," or "concrete," may be done either over a frame wall, which is the most common, or over terra-cotta blocks, which is the best.

First, the frame wall. We have the studs and boarding as for shingles or clapboards; over this we tack one, or better, two thicknesses of damp-proof paper well

(Continued on page 6)



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Conducted by JULIA LESTER DILLON

Inquiries and problems for this department will receive prompt attention. Please enclose a self-addressed stamped envelope for reply.

PLANNING THE ROSE GARDEN

THERE are three essentials for successful rose-growing with us, as elsewhere: good soil, good drainage, plenty of sunshine, preferably of the morning sun, and, if the situation is sheltered without being shaded, so much the better. Deep digging, artificial drainage, if necessary, rich warm, loamy soil, with some sand, and always clay for the Hybrid Perpetuals, is the first step in the creation of the rose garden.

More and more garden-makers of the South are coming to realize that the planting of roses in number sufficient to furnish blossoms for the house from month to month does not necessarily make a rose-garden. To be a garden worthy of the name, it must be a beautiful picture, in season and out of season. Usually no artist would call that part of the grounds where the roses grow either beautiful or worthy of his brush and canvas at any season.

The first requisite of a rose garden or a rose border, then, is a background. It may be an evergreen hedge, an ivy-covered wall, a trellis, the lines of which are buried in the leaves of some evergreen climber. It may be a border of shrubbery planted along the lines of a city lot or the boundary of an estate, but, whatever it is, there must be no question about its abiding qualities. For the foreground, the soft greens of the evergreen turf of the South form a most worthy treatment. If the walks be brick or gravel, then the beds of roses should have an edging of turf at least a foot wide, and inside this edging dwarf boxwood or violets will make a dark-green ribbon to tie the harmonies of the roses to the velvet greens of the turf. If grass walks are possible, they are the most beautiful and satisfactory in every way, and the rose beds should then be edged with either the violets or the dwarf box, *Buxus sempervirens suffruticosa*.

For a formal garden with a bird bath or a sun dial as the central axis in the midst of grass walks and box-edged beds, as above outlined, the spaces for the roses may be filled with the silvery pinks of the Killarneys, or the exquisite Bridesmaid, of heavier texture than the Killarney, but equally desirable in both form and color. Carolina Testout is another pink bedding rose of prodigal wealth of blossoms, and beds of these varieties will give pleasure and satisfaction without end.

For the white roses that make the high lights in this garden canvas we will put the Kaiserin Augusta Victoria, the silvery White Maman Cochet, the magnifi-

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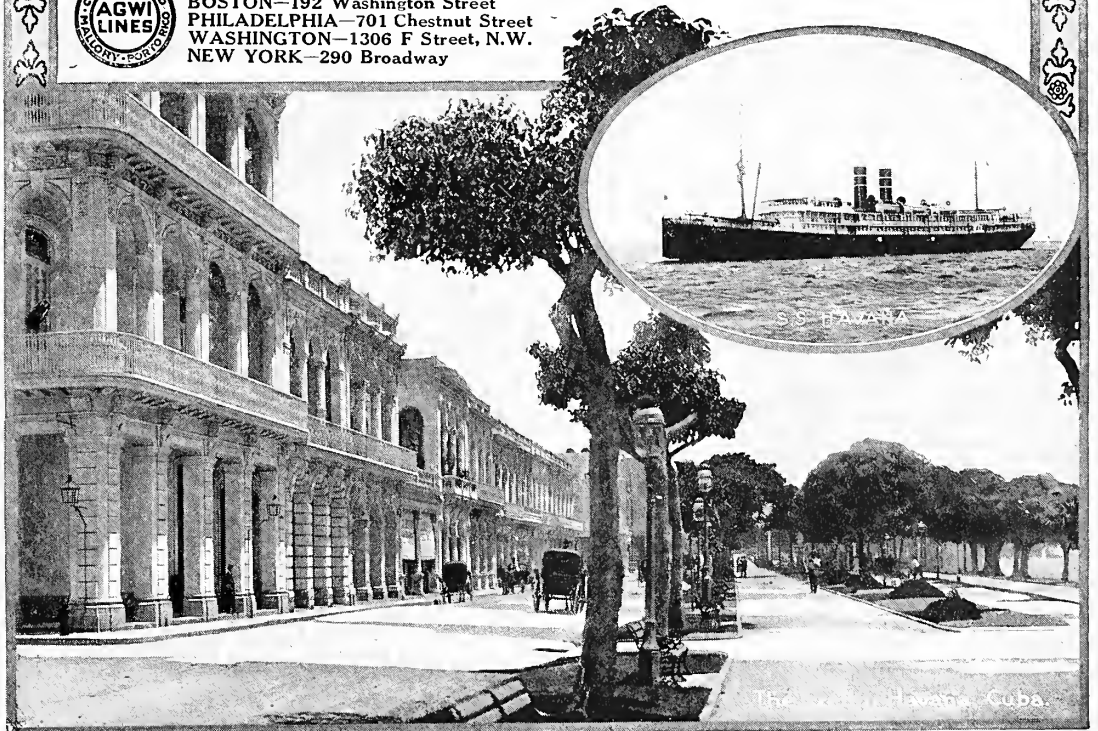
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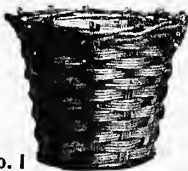


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cent Frau Karl Druschki and the delicately lovely Bride. For the sunlight of the garden, Etoile de Lyon, Mme. Blumenschmidt and Franz Deegan form yellow beds of unrivaled color. Blending into these shades of gold we have the orange lights to be found in the Sunburst, the coppery yellow Francesca Kruger, and the salmon yellow, Melanie Soupert, so that these varieties, with their tones of yellow-orange and salmon-pink, carry the color scale through the warm tones into the deeper pinks of Paul Neyron and George Arends, and these lead us naturally to the deeper crimson and reds of the Richmond, Ulrich Brunner, J. B. Clark and Meteor. All of these roses will not only give an abundance of bloom in the spring, but most of them are gorgeous from August until the late frosts of November and December bring winter to the garden.

Framing such a garden of formal beds there should be an enclosing wall formed of a hedge of Amoor privet or arbor vitae. Against this background the more vigorous-growing plantings, like the Bourbons, Souvenir de Malmaison, Hermosa and the Burbank, with the teas, Duchesse de Brabant, Devoniensis, and others, may be made. Winter pruning of the roses in this situation should keep them either lower than or on a level with the wall. If space does not permit the garden of roses, a border or hedge against an ivy-covered wall or an evergreen planting of any kind is very artistic and always beautiful and satisfactory.

If one prefers the daintier growths of the *Polyantha* and Baby Ramblers, they are also very beautiful in this setting. These dainty little roses are also used for the large beds of the informal gardens, and the California rose, Cecil Brunner, is not only a favorite, but especially deserves its popularity. It is the perfection of rose form, a Killarney in miniature, of a creamy color with deeper saffron tones in the heart, and its clusters of blossoms are not only deliciously fragrant, but continuously present.

For the rose borders or the beds in the formal plantings, winter carpets of pansies and violets are charming and the roses seem to bloom more freely for having had the company.

The hardiness of the Tea and Noisette roses in the South enables us to plant these vigorous and rampant climbers on trellises, tea-houses, arbors and pergolas, and revel in their bounteous beauty and fragrance from year to year and almost from month to month. Long walks over which are arbors wreathed in the climbing forms of the Devoniensis, Malmaison, which are nearly evergreen, the Lamarque, Reve d'Or, Maréchal Niel and Cloth of Gold, the Kaiserin Augusta Victoria and La Reine Marie Henrietta are scenes of unexampled loveliness from month to month. All of these are vigorous and hardy climbers and make wonderful summer screens for the second-story sleeping

porches, as well as for the lower plantings.

For small arches and porch pillars it is better to plant the less vigorous varieties, like the Ramblers and Wichuriana Hybrids. Of the latter, the Dorothy Perkins is the best-known pink, while for the yellow tones there is the Gardenia, for the white, Alderic Barbier, and for the deeper color, the Ferdinand Roussel, which is wine-red. The single-flowered Jersey Beauty and the red Hiawatha, with its white center, are also very attractive. These roses may be trained to the desired height and then the branches, if allowed to droop, will form graceful festoons of lovely blossoms at the annual springtime harvest. These hybrids are almost evergreen and very free from insect pests, and, for this reason, perhaps, are more popular in the South than the ramblers, all of which are well known and vigorous here, as elsewhere.

For evergreen screens, for covering walls and terraces or wherever an evergreen effect is needed, the old wild rose of the South, *Rosa laetigata*, is recommended. The newer Pink Cherokee is also very lovely, and both of these, while rampant growers, may be kept in bounds by pruning. The Banksia roses, in snowy white and primrose yellow, with thornless stems and delicate, green leaves, are not nearly so well known as they deserve to be. Annually the violet-scented clusters of blossoms cover the long, gracefully drooping stems to the very tip.

The Uses of Woodwork in Interior Decorations

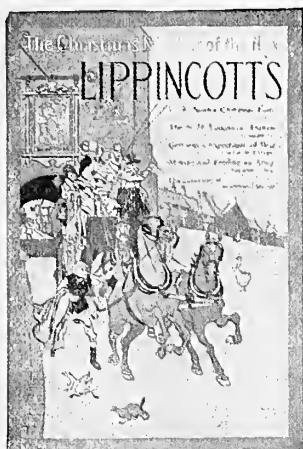
(Continued from page 27)

it is a conglomerate stone produced artificially.

As to whether it is quite logical to use concrete so lavishly while pretending to work in a historical period totally ignorant of its existence, is another matter. We must draw the line somewhere, I suppose, between what we should not do and what we may. The beautiful qualities of the style are what we seek, and anything not out of harmony we may surely adopt.

Their chairs were usually of solid plank, too heavy to move easily, and of a stiff discomfort; but these are not valid reasons for making ours unpractical or uncomfortable. The chairs we call Jacobean are really more like those in Charles First's time than in his predecessor's. These reigns are commonly grouped together under the general name of Jacobean, a period of oak in contradistinction to the walnut period that followed. After the Walnut came the Mahogany, and then we are in the full sweep of the Georgian classic and our own Colonial.

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IT TELLS YOU HOW The February House & Garden

Ideas for the house and
the garden written so
that you can understand
and appreciate them

THE heart of the house is the living-room. Its decoration in good taste is an index to the owner as you will discover in "The Essentials of Living-Room Decoration."

¶ As an all-round dog, the Airedale is hard to beat. Whatever place you put him in, he'll come up to snuff. Read the article on him next month.

¶ These days you'll think now and then of the spring and summer months awaiting you in the country. There's a suggestion, if you are looking for a car, in "The Electric in the Suburbs."

¶ Why not efficiency in the flower garden? Make your investment and time, labor and expense pay a big dividend. For particulars see "The Efficient Flower Garden" starting in February.

¶ There is a romance in the evolution of houses, and romance enough is written in "What Was Done With a Five-Room Cottage," a tale of a Southern home.

¶ Whence come the flocks of birds we see winging their way these months? "Through a Wild Fowl Breeding Ground" tells their story.

¶ The wise gardener will spray at least once in winter time, for work in this season will save work later on, as you discover in "Winter Spraying."

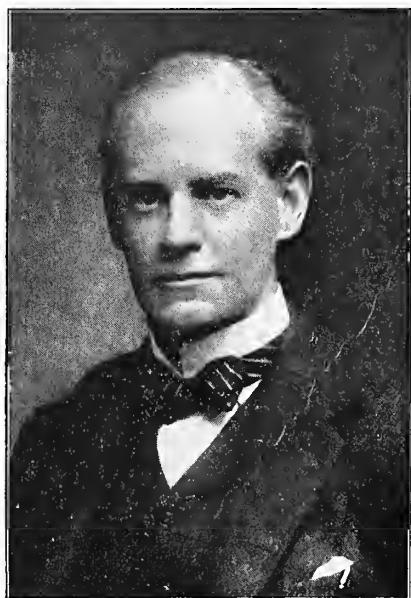
¶ The personality of a room is the personality of the person who lives in it, a rule that applies especially to bedrooms, as is shown in an illuminating article next month.

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A graphic and impressive account of "The Taking of Antwerp," by E. Alexander Powell.

Madame Waddington, whose French home was occupied and all but demolished by the Germans, gives a graphic picture of rural France "In War Times." It is a scene of desolate homes, of the passing of troops, of the wounded, and of the hard struggle for existence.

A story for the times: "Coals of Fire," by Mary R. S. Andrews, author of "The Perfect

Tribute." This is a story with a most original idea, of the work that Aileen O'Hara began in a great war, in the cause of humanity and to further the cause of women, by setting an example of self-sacrifice. It is a story that *grips* your heart and stirs the emotions irresistibly.

Olive Tilford Dargan, one of the most distinguished of contemporary poets, contributes a long poem about "This War." It is inspired by high feeling and imagination and expresses with great dignity the significance and thought of the present world-conflict.

"Kipling's Children," four full-page paintings by Jessie Willcox Smith, reproduced in colors.

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The Personality of Col. Goethals

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From a Photograph by G. V. V. Buck
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A Holiday Suggestion

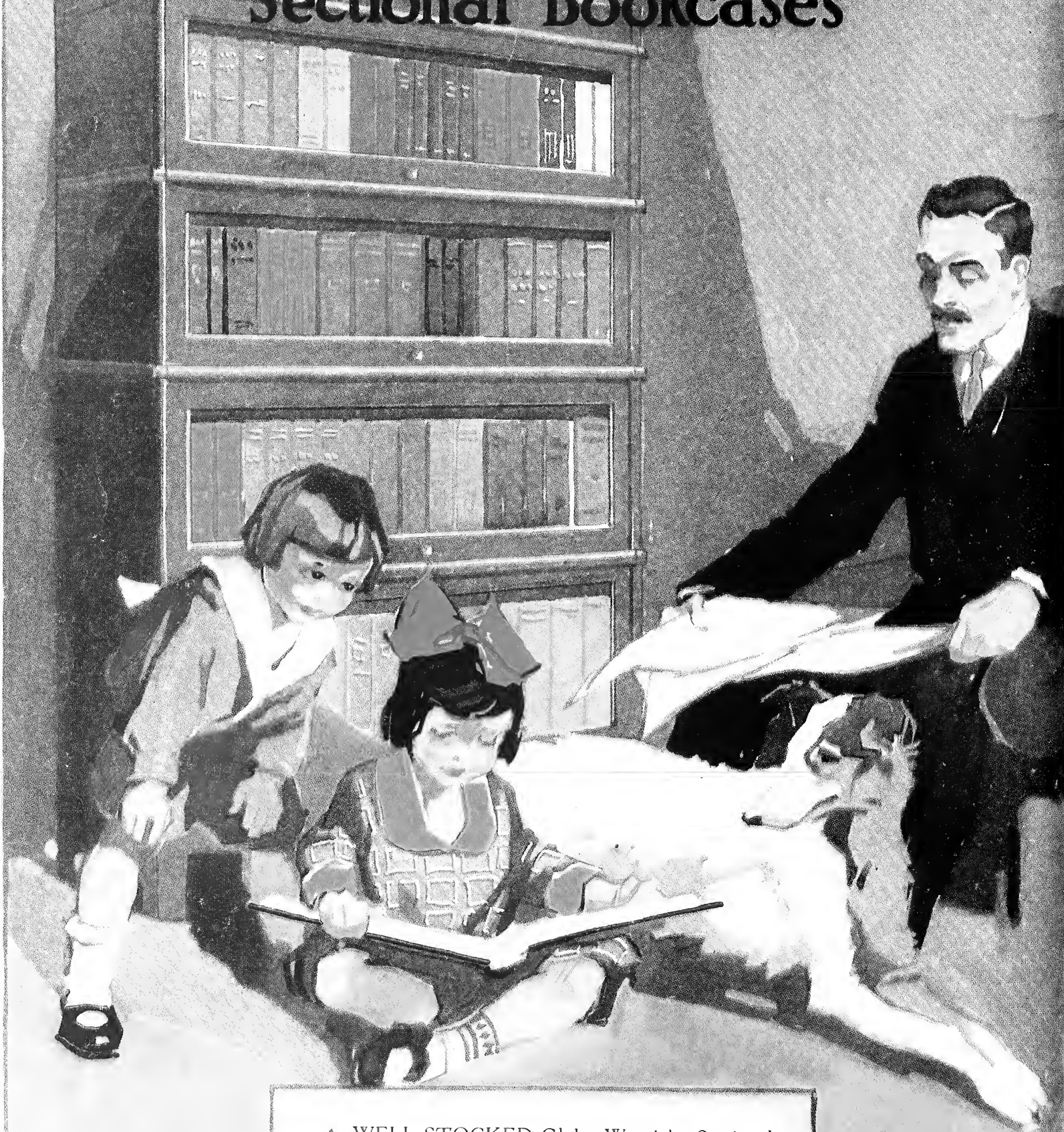
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House & Garden





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White leadership is a principle

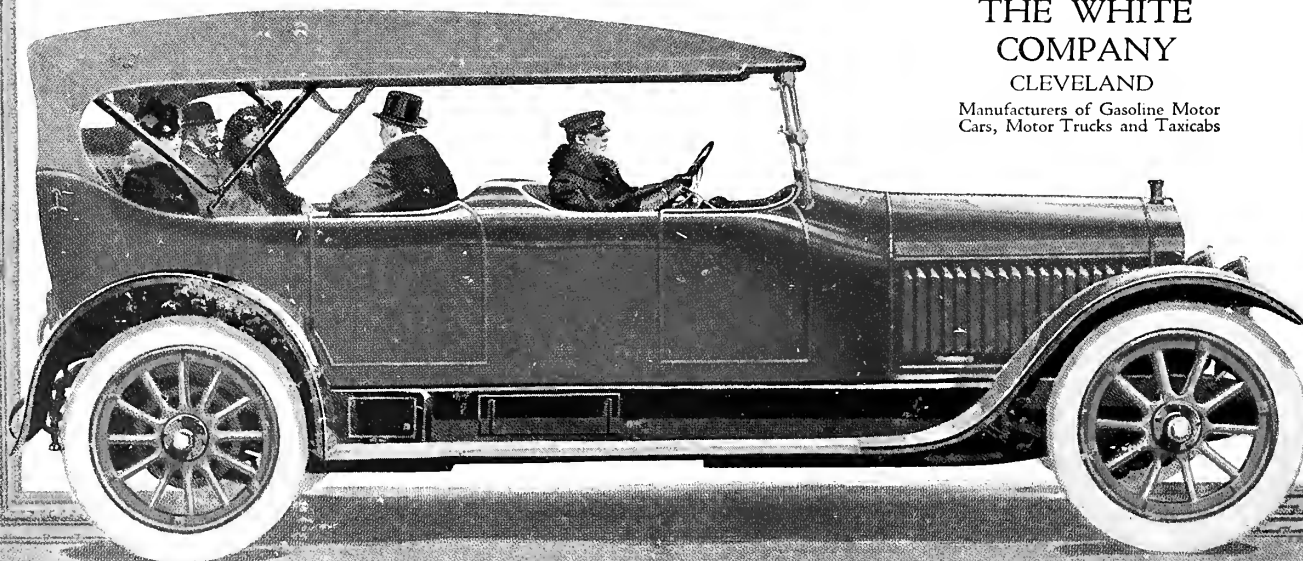
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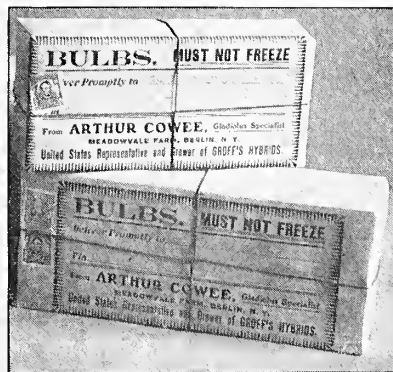
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Peat as a Stable Litter

THE chief requisite of a good litter is that it shall possess great absorbent power and that it add fertility to the manure is also desirable. Straw, the most common litter, is not well suited for the purpose in either of these respects, especially in the quantities and form in which it is ordinarily used. Because it is produced on every farm, and the fact that its use as a litter represents the best way of disposing of it, it will, of course, continue to be used in this way. Its value might be greatly increased, however, by using more of it and having it cut fine. The coarser it is, the lower the absorbing power.

In peat we find a material which is naturally well adapted for the purpose in question, its absorptive power for both liquids and gases being exceptionally high. By absorbing the liquid manure, the most valuable portion is saved, since it contains about 56% of the nitrogen and 80% of the potash of the total manure. Furthermore, the plant-food in the liquid form is immediately available for plant use, while the solid manure must first be decomposed in the soil before the elements can be taken up by the crop. Consequently, the preservation of the liquid manure is of much greater importance than the care of the solid. The most disagreeable feature of the manure, especially around dairy barns, is its odor. This is due to gases given off in the rotting process, which begin almost as soon as the manure is made. As was pointed out above in connection with composting, ammonia is also formed in this process, and is likely to escape into the air and be lost. The remarkably high absorptive power of peat for gases makes it a remedy for both these evils. Barns in which peat is used as a litter are notably free from the usual characteristic odor of manure. As in the case of composting, peat also adds considerable fertilizing value to the manure in the form of nitrogen compounds and organic matter.

The best way to use either peat or muck as a litter is to fill the trenches behind the animals, or in the case of box stalls, to place a layer over the floor and cover it with straw. Otherwise, unless it is of the "peat moss" type, it may cake on the animals as it becomes moist. If, however, it is quite fibrous and contains considerable quantities of moss, it may even be used directly as a bedding, a practice which is finding favor in the East, where peat moss is imported to some extent for the purpose.

In districts where manure is scarce, it is highly desirable to increase its quantity to the greatest possible extent without producing unfavorable results. The question

naturally arises, how much peat can be mixed with a given quantity of manure to get maximum crop increase? In the use of peat for composting and as a litter, a minimum is set by the amount which will properly absorb all of the liquids and gases from the manure. If, however, this minimum could be exceeded it would mean a corresponding increase in the amount of manure. The answer to the question will probably vary with every different deposit, and no general statement can be made in regard to it. Each bed must be tested. Where manure is scarce and such muck is available it could be made quite a factor in the maintenance of soil fertility and in crop production.

Flint Grit

MANY poultrymen are apt to forget that grit is absolutely essential to the health of the fowl—the lack of grit is in many cases the cause of hens not laying—it is essential in more ways than one; it is the hen's teeth, and the gizzard requires it, hence it is indispensable. If fowls do not have sufficient grit, a great amount of the food they consume will do them no good, for the reason that the gizzard must be supplied with grit in order that the fowl may extract all the nutriment there is in the food, and, further, the fowl that is not regularly supplied with grit will more readily contract disease. Thousands of fowls die annually for the want of grit. Good, sharp flint is the best, but if this is not easily obtained, broken crockery will do as a substitute.

Oyster shell does not serve the same purpose as grit; while oyster shell supplies the system with lime and carbonates, good flint grit serves as a good grinder and enables the fowl to get all the goodness from the food, and without grit of some kind the fowls will soon become victims of indigestion, sicken and fail to be a paying member of your flock.

While we believe in breeding up for heavy laying, at the same time we would rather have our hens average 165 eggs a year and remain in robust health than to have their systems drained of vitality in the race to pass the 200 mark. There is reason in all things. If we are to force our stock ahead to be champion layers, we are doing it at the sacrifice of something else.

What about the meat side of the question, if all the force is put to work up eggs? When we spend our food and attention on the fowl with a view to creating an ideal carcass, do we not make the egg yield suffer? Why not concentrate on both eggs and meat and have a limit? If we can gradually increase the powers of a hen so that she will average 200 eggs a year and still maintain health and meat qualifications, it is advisable to go ahead. But to build up the one at the expense of the other will eventually produce a delicate race. We want the 200-egg hen as much as anyone, if we can get her within reason and without injuring our foundation stock.



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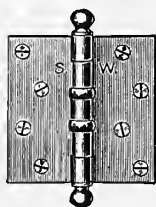
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Washing the Dog

WHETHER your dog be a dachshund or a Dane, a Peke or a pointer, he should be regularly, conscientiously and properly washed. No matter how carefully you keep him his coat will accumulate dirt which only soap and water will adequately remove, and, though "dry scrubbing" with a good dog brush will do much toward keeping his skin in good condition, yet a bath once every three weeks is strongly to be advised.

The proper washing of a dog is not as simple a matter as the uninitiated might think, for the vast majority of canines are about as amenable to a good bath as a yearling colt to his first harness. There are a few exceptions, but the average dog considers the tub of water a most unnecessary evil, and, though he may stand quietly enough until sufficient lather has been worked up to cover several rooms full of Persian rugs, you may be reasonably sure that he is but awaiting a moment of relaxed vigilance to slip through your guard and spread consternation and soap over the landscape.

In cold weather, the best place for washing a dog is a tub, preferably supplied with running water, which is large enough to permit him to stand in it comfortably. If the bottom is of porcelain or other slippery substance, cover it with a strip of corrugated rubber or heavy cloth so that the dog will not lose his footing and suffer a disturbing, if not actually dangerous, fall.

The water should reach nearly to the dog's body and be comfortably warm. The room, too, ought to be at ordinary living temperature. Lift the dog in quietly (if he is too heavy to lift you will obviously have to teach him to step in himself or else resort to the decidedly wet procedure of washing him on a bare floor), and keep your hands on him to frustrate a break for liberty. Then take a sponge and soak him thoroughly first about the head and neck to cut off the retreat of scouting parties of fleas which in times of flood seek the highest parts of the country, and rub in a good lather with any standard dog soap. Thence work down the body, legs and tail, alternately wetting and soaping, and scrubbing vigorously with the tips of your fingers. Allow the lather to remain for several minutes, and then sponge it out *thoroughly* with clean warm water.

Drying comes next, and it is not a particularly easy process in the case of thick-coated dogs. The first step is to draw off the water from the tub and go over the dog thoroughly with the sponge, rubbing him well and soaking up as much of the water from his coat as possible. Then throw a big towel over him and rub vigorously with both hands. As soon as the first towel is wet take another, and keep it up until the entire coat is well dried. Then let the dog go, but do not allow him outdoors if the weather is chilly.

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Finally, take the dog into a sunny room or before an open fire, and give him a good brushing with a rather stiff brush. This will complete the drying process and leave his coat in excellent condition.

It is a good plan never to wash a dog soon after he has had a meal, for some individuals are so constituted that the shock of taking a forced bath brings on a sudden dislike for the food they have just swallowed, and the results are not pleasant. I fancy this is merely a nervous condition, for I have seen the same effect in a high-strung dog where the only cause seemed to be the excitement induced by the prospect of going for a walk with his master.—Robert S. Lemmon.

Airedales, the All-Round Dog

(Continued from page 85)

ming the dog, but all loose hair can readily be removed with the comb. See that the head and legs are as clean and smooth as possible.

In shipping the dog to out-of-town places, first-rate hamper are now procurable at the dealers', and your only consideration will be to see that the animal has sufficient water during his journey. At the show itself if possible, handle the dog in the ring yourself. A little preliminary training in making him stand still and "looking for the birdie" will help wonderfully.

This brings us to the general subject of the training of the dog. If you have the time and patience, it is better, and, of course, more economical, to buy young puppies, but it is correspondingly difficult to know just what you are getting. The family tree of your pup, however, is the safest guide, although the pups in a single litter vary to a surprising degree. A six-months' pup ought to be well housebroken and fairly obedient to any command, and that is the best age at which to buy. He is, besides, not too old to learn. Training the dog is a combination of harshness and kindness. Harshness in requiring implicit obedience to orders; kindness in rewarding good conduct and in recognizing an animal's necessary limitations. Many people make the mistake of judging a dog by human standards.

When all is said and done, common sense is the best guide in the care and treatment of any animal—that and the fact that the Golden Rule applies to dogs as well as to men. This is worth more than the reading of many books.

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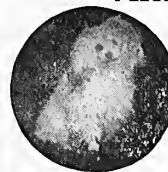
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The Poultry Calendar

FEBRUARY is the month when the man or woman who takes a serious interest in his poultry yard and who plans to make his labor bring profitable returns will clean up preparatory to the introduction of new stock and new machinery.

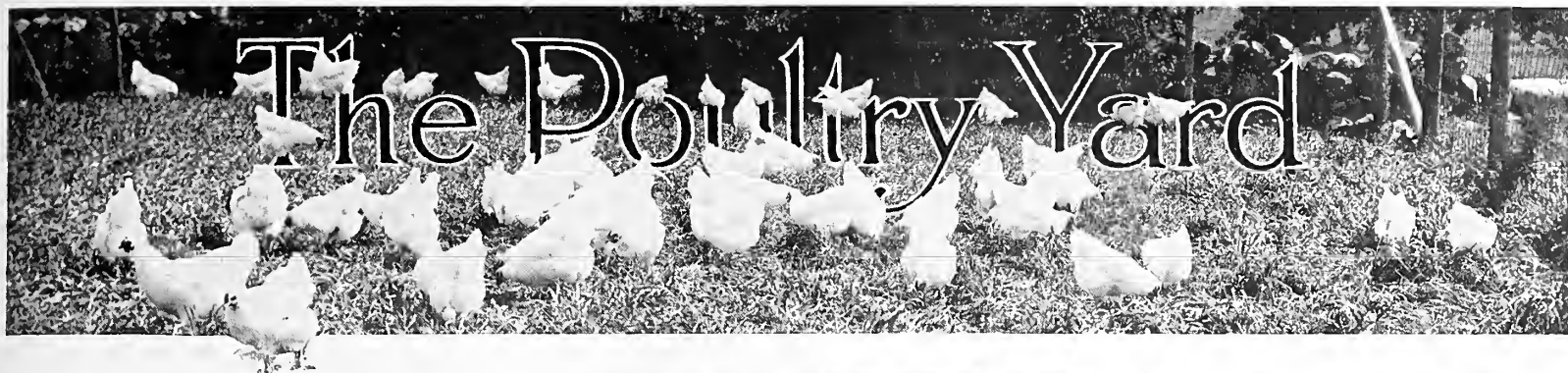
Successful natural rearing of chickens requires convenient facilities, regular attention, and often tries one's patience, while artificial methods require a larger investment, close attention and more care, but are more commonly used where large numbers of chickens are raised. Many poultry keepers who are able to secure good egg yields and fair hatches make a failure of brooding chickens, either in raising only a small percentage of the chickens hatched or in failing to rear strong, vigorous birds which develop into good breeding stock. Brooding is still in the experimental stage, and no one system has given perfect satisfaction.

The beginning of the month is a good time to see that the litter on the floor is deep enough. This use of litter is most important. Straw, shredded corn stalks, hay or leaves serve the purpose. It should be two or three inches deep at the beginning of the season, and more should be thrown in as the first becomes broken into fine pieces. It is always good to keep hens at work seeking food. Scatter in a little millet or hemp seed to act as an extra inducement to scratch. If the hens do not seem prone to scratch, omit a meal, so they will be forced to seek for food. Also keep an eye on the way the dry mash is going. If it is not being eaten freely, cut down on the supply of grain.

Two other things outdoors should demand your attention: Eggs to be used for hatching should be gathered several times a day and kept in a temperature of between 40 and 60 degrees. Eggs over a fortnight old should not be used. If one is breeding fancy poultry, the first of this month is none too early to make up breeding pens. Although delivery may not be desired until March or April, orders for eggs to hatch should be put in now.

Whether your poultry yard is small or large, your ambitions, professional or amateur, you will not be able to go far without an incubator. And the purchase of an incubator should be given serious attention this month. Although the first of March is early enough for the amateur to start them, it is best to have your order in now. It pays to make a careful study of the incubator question before purchasing. A cheap machine is false economy.

When a man runs an incubator he puts all his eggs in one nest, as it were. Then he has one machine, instead of a number of hens to look after. Very little work is required, and that not of an arduous nature, but painstaking attention to details is imperative. Sitting hens will tolerate a certain amount of neglect because they are able to adjust themselves in some degree to circumstances. When using a machine,



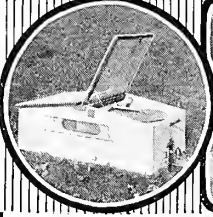
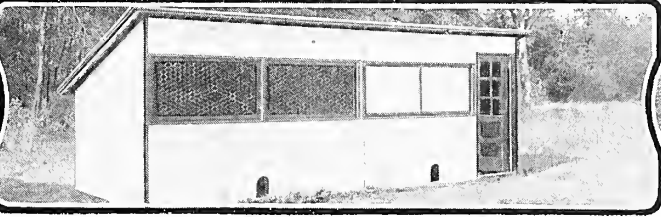
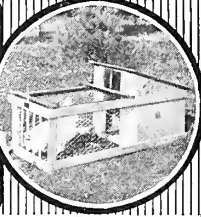
however, all the intelligence must be manifested by the operator.

It is not wise to buy any but a standard machine—such a machine as is generally used on large plants, which can afford to test the different makes. It may hold from fifty to about 300 eggs. Generally speaking, it is advisable to use an incubator holding at least 120 eggs, for it will require no more attention than a smaller one. It may be operated in a cellar, a room in the house or an outbuilding.

If the amateur decides to purchase an incubator and operate it in his home it is well for him first to consult his insurance agent; otherwise he may have serious difficulty in collecting his insurance money in case of fire from any cause. It is true that incubators sometimes get afire, although almost always for the reason that they have not been properly cared for, and insurance companies exact a small fee for the privilege of using them.

Chickens hatched during the winter should be brooded in a poultry house or shed while the outside weather conditions are unfavorable; after the weather becomes settled they should be reared in brood coops out of doors. Brood coops should be made so that they can be closed at night to keep out cats, rats and other animals, and enough ventilation should be allowed so that the hen and chickens will have plenty of fresh air.

The hen should be confined in the coop until the chickens are weaned, while the chickens are allowed free range after they are a few days old. When hens are allowed free range and have to forage for feed for themselves and chicks they often take them through wet grass, where the chicks may become chilled and die. Most of the feed the chicks secure in this manner goes to keep up the heat of the body, whereas feed eaten by those that are with a hen that is confined produces more rapid growth, as the chicks do not have so much exercise. Then, too, in most broods there are one or two chicks that are weaker than the others, and if the hen is allowed free range the weaker ones often get behind and out of hearing of the mother's cluck and call. In most cases this results in the loss and death of these chicks, due to becoming chilled. If the hen is confined, the weaklings can always find shelter and heat under her, and after a few days may develop into strong, healthy chicks.

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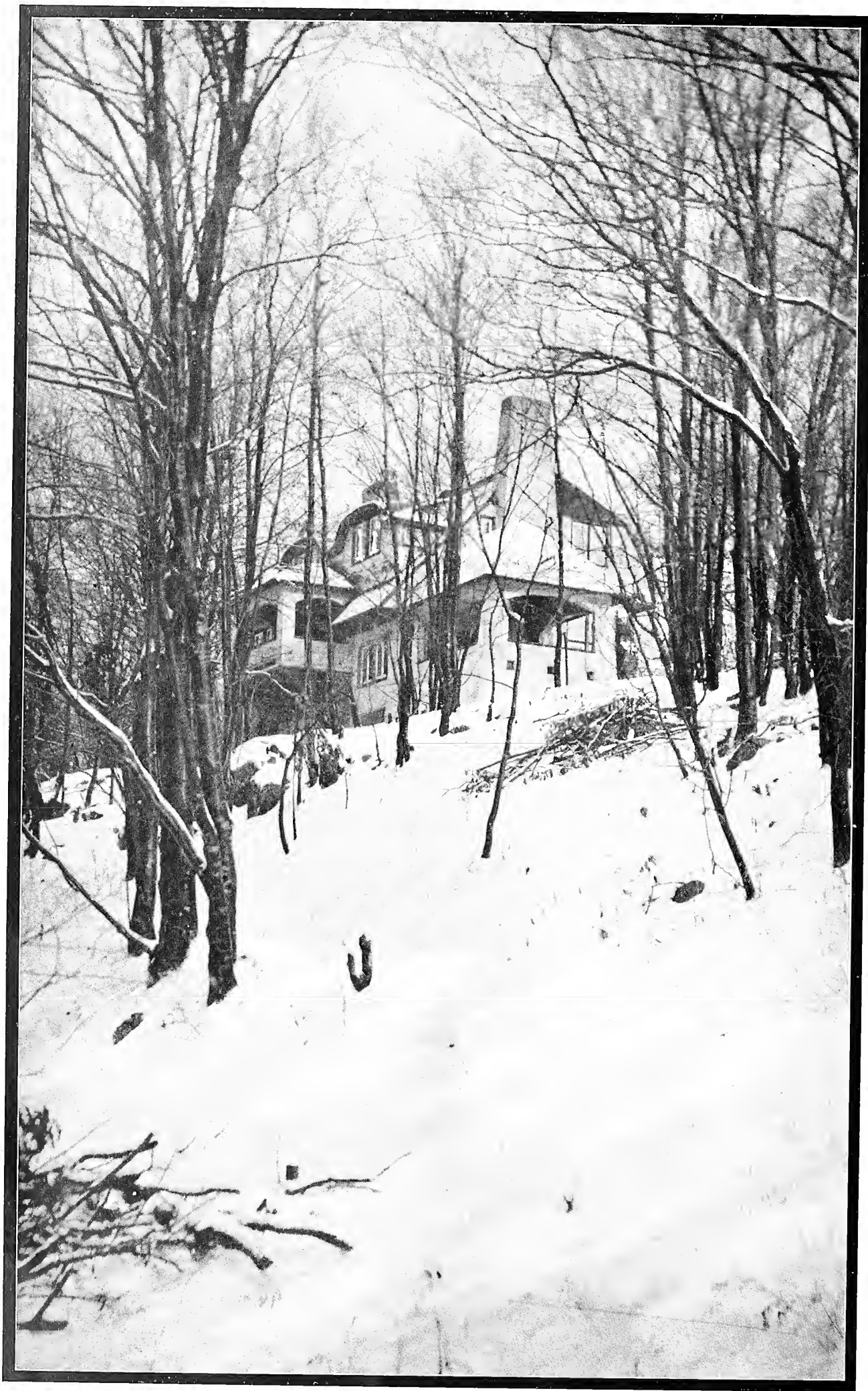
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RICHARDSON WRIGHT
Managing Editor

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The house set on a high hill usually has the advantage of a magnificent outlook and invariably of a good approach. If that approach is through the woods, then the setting is indeed perfect. In serried battalions the sentry trees stand about through the rigors of the winter, and when summer seasons come they hide with their foliage the house as one cherishes a jewel





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An excellent arrangement creating a proper center of interest is to place a very long and somewhat massive davenport before the fire, and directly behind a table, equally long, about seven feet, and ample enough to hold a lamp on either end and plenty of books and magazines

The Essentials for Making a Living-Room Livable

THE PROPER LOCATION IN THE HOUSE—ITS CENTERS OF INTEREST—THE NECESSITY FOR GOOD LIGHTING ARRANGEMENTS—METHODS FOR ADAPTING OLD PERIODS TO MODERN USE—PAINTED AND WILLOW FURNITURE

MARY MCBURNEY

Photographs by the Author and Amee A. Jones

THE real significance of the living-room and drawing-room is so often misinterpreted by being carried to the utmost extreme that it is interesting, and even necessary, to lay stress on the true individuality of each. The drawing-room is usually accepted as a formal, somewhat uncomfortable place to be used for entertaining, and to be avoided at genial, intimate moments. It seems to lack an atmosphere of warmth and comfort and to stand coldly aloof from everyday life. I have seen houses where people retreat to the bedrooms or the nursery rather than try to make themselves at home in the drawing-room, and it is easy to understand their doing so when one feels the cold and cheerless atmos-

phere; curtains are drawn, the hearth—where no fire ever burns—is bare or concealed by some ornament; and in summer, dreary, white Holland covers deform the furniture. It should, of course, be a formal, dignified room, well carried out in a period style if possible, especially when there is another room, a library or morning room for general day use; but it need not lack either in comfort or charm because of its formality; in fact, great emphasis should be laid on the choice of comfortable furniture and a real fire on its dignified hearth! And also, most important, the sun should be allowed to enter through its not too much curtained windows, while a great stimulus to livableness are growing plants



There are few things that can lend such an air of charm, and can make instead of mar a room, as the lighting arrangements. Devices used here are admirable—good reading lights and wall brackets shaded

and fresh flowers. On the other hand, the living-room—the very words suggest informality—is the place for family and friends to gather on any and all occasions—a room to live in. And for this very reason it is often abused by being made too personal, too expressive of the details of a family's life, the details which ought correctly to belong to the individual's own apartment. It has too often the tendency to contain a collection of everything, rather than to be a unified whole. It should, of course, express the person or persons who are to use it, being thoroughly suited to their tastes and personalities; and it must be made essentially comfortable; but, on the other hand, it should not fail in dignity and repose. There must be a sense of harmony in form and color and arrangement. Above all, there should be plenty of space so that there may be no feeling of overcrowding. Most pleasing is that freedom from too many things. As very often there is no other suitable place for the purpose, the living-room must be made for entertaining, as well as for everyday life, and then the necessity for plenty of space is appreciated.

For daily use, a room that can be entirely closed so that privacy is secured when the occasion demands it, is most satisfactory. It never should be a passage, nor, if possible, should stairs or front doors be in the living-room, for then it is open to strangers and servants, and there is often a time when that is not desirable.

Two, or even three different centers in the living-room are advisable: the fireplace, primarily, with its long davenport and easy chairs; and also the window with seats and desk, bookcases close by, and a pleasant view of the outside world. These two centers for different times of day and year are almost essentials.

There are few things that lend such an air of charm, and can

make, instead of mar, a room, as the lighting arrangements. Tables with good reading lights, and all lights well shaded; those on the walls should be used sparingly and always concealed by carefully made shields. Nothing perhaps is more inartistic than electric bulbs in the ceiling, which throw the light in the one place not wanted. Almost as important as the lighting is the curtaining of the windows. Light, and yet more light, is generally needed. Thin scrim or net across the glass and the other hangings pushed well back with a formal, simple valance across the top is generally safe; clumsy, overtrimmed curtains and fancy lace ones shutting out light and air ought to be avoided.

The walls ordinarily should be plain and low in tone, with very few pictures, for seldom are there pictures that are good enough to lend beauty and distinction to a room! Paneled walls, which are in themselves decorative, simple and reposeful, really need no pictures at all.

The structure of the room, the main idea, as it were, should be of some one period which can be adjusted and



The drawing-room must be formal and yet not so stiff and unnatural as to make the guest uneasy. Here again the lights should be well shaded and an air of general repose created

changed to meet the modern requirements of the family. When carried out too strictly, the room becomes stiff and unnatural, as if made to order by outside means; yet with the general feeling of a period seen in the paneling, the main pieces of furniture, the fabric and design of the curtains and upholstery, there is a strong framework to build on. This will hold in place the individual expression of the owner shown in all the minor details.

The Jacobean—possibly the most popular period now used for an English living-room—can be made altogether delightful for

modern use. The walls are of dark, simple paneled oak, and are better without pictures unless one is fortunate enough to possess some old English masterpiece; then nothing could be more beautiful than to see it set unframed into a panel. If paneling proves too expensive, there are other ways of treating the walls suitably. Tinted plaster in gray or putty color, with a simple moulding to suggest panels, is always good. A plain, rough-textured wall paper in a neutral tone can also be used, or even a canvas finished in very dull gold. Dark oak floors, small-paned windows, a huge, carved or Caen stone fireplace, and architecturally one has a delightful setting. The furniture should be of oak; the chairs carved, with upholstered seats or turned with coarse cane inset—the latter are simple and exceedingly good looking. Before the fire is a very long, somewhat massive davenport and directly behind it a table, equally long—about 7 feet—and so ample that it can hold a lamp on either end and plenty of books and magazines as well. In choosing such a table one should guard against too elaborate and bulbous an un-



Roominess in a small place may mean elimination of furniture; in general, however, proper arrangement solves the problem as here where the davenport is drawn away from the fireplace



Where space permits roominess can also be created by setting the davenport beside the fireplace. By providing a light at one end comfort to a reader is insured and not too much light for the guest opposite

derstructure. The simpler the lines, the better, especially in a reproduction. Two deep-seated easy chairs drawn up before the fire, make, with the sofa, a perfect gathering-place. A small, gate-legged table can be brought forward and used for tea, and most convenient at such a time are one or two cane-bottomed stools with turned oak legs; near the fire a long, low chest for wood is both useful and decorative. Nothing perhaps speaks so of age and the home life of centuries as the chest, the oldest form of furniture. Several substantial Jacobean chairs matching

the stools are very ornamental against the walls, and a much-carved cupboard—one of the many beautiful reproductions made now—gives a sense of age and weight to a room. Placed between the windows is a writing table—no small and dainty desk, but a wide, roomy table fully equipped with all writing materials and well lighted by two oak candlesticks fitted for electricity and with shades alike. The coloring for such a room should be rich, no light nor pastel tones, and the textures deep and heavy in feeling. Appropriate are curtains of heavy, blue-green velvet, finely striped in a darker tone; tapestry coverings in the same color, merging into dull browns and russets; and, for a strong note of vividness, yellow or orange lamp shades on heavy gold carved lamps. For fixtures, gold carved ones in the oak-leaf design, with shields of heavy silk or parchment, are suitable. Other materials can be used, such as heavy linen, in a good Jacobean design—large and striking—and rep or velour or a very strong armure would answer for upholstery. The floor should be covered with dark, dull, Oriental rugs, or, if those are impossible, with a plain velvet rug of a deep, mahogany brown color. Such a room would stand years of everyday use and grow more and more mellow and beautiful.

For another type of living-room to suit other tastes, is a very original and very American-made room. It would be more correct for a country than a town house. The six-foot wainscoting is of light cypress wood, in color a warm gray. Above it, the wall is covered by a putty-colored paper of rough texture slightly lighter in tone than the wood. Slightly darker than the wood is a large velvet rug, covering the floor within 2 feet of the baseboard. Before the fireplace—of pale, dull blue tiles—is a black fur rug. The three or four easy chairs are somewhat small and light in



Painted furniture may be used in a purely modern American living-room, its color and form and decorative detail chosen to suit the owner's individual tastes



A rush bottom chair of such a set is inexpensive, comfortable and always decorative



By some, painted furniture is considered merely a hot-weather medium, whereas it can readily be used all the year round in certain types of rooms

structure and covered in a gray and blue linen. The gray and blue—that rare Chinese blue—are subtly related, much neutralized in tone, and the intricate design is made up of a strange, impossible dragon with faint touches of black in his anatomy! Instead of the usual davenport before the fire, a day-bed is drawn up a little to one side, the frame and back painted the dull blue and decorated in a delicate, black design. The cushioned seat is covered in a linen, like the chairs.

The tables, the small writing-desk, and two or three chairs, all of rather odd shapes and with rush-bottomed seats, are painted blue, like the day-bed. Two chairs and a standard lamp are lacquered in black, and one odd, black sofa cushion, are all used to bring out a striking contrast. Another lamp is of white, crackle ware pottery, and both have very dull orange shades, one with black fringe and gimp, the other covered with heavy filet lace. The curtains at the French windows are of crinkled silk of a dull, faded orange. Delicate electric fixtures painted black, with small, orange shields, give a note of color to the walls. The portieres are of the same linen as the upholstery, or, if one should prefer it, use a gray velvet as near in tone to the walls as possible. In such a neutral-toned room the bookcases should be curtained—the orange silk, for example, drawn tight under the glass doors. Otherwise the books would be too heavy and varied in color. The painted furniture and light-toned linen would be delightful for a room

much used in hot weather. This style of furniture can be made to order in many different forms and colors, suited to any individual taste, and makes a charming and distinctive room. The plainest and most inexpensive furniture, but of good lines, can be used when necessary, painted and decorated as one wishes, instead of the rather high-priced reproductions of peasant furniture used in the room described above. The expense can be

much lessened by papering the entire walls and using some lovely chintz instead of the linen and silk. The effect will be very pleasing and the cost comparatively small.

For those who like Colonial rooms, or to be more exact, the American adaptation of the 18th Century English periods, the problem is simplified, as so many families have inherited and accumulated in one way or another much mahogany furniture.

So-called Colonial architecture in the country is still popular, and the living-room, with its white paint, low ceiling and figured wall paper, is in excellent taste in such a house. The paper can be put on above a three-foot wainscot and finished by a chair rail, or, if preferred, the effect of paneling can be produced by giving the plastered walls many coats of enamel paint and dividing the spaces with a two-inch moulding. This latter treatment has much more dignity and permanence, as well as beauty, than any wall paper. However, if it can be found, for it is a rarity these days, a good Colonial landscape paper is appropriate; or, possibly, in default of this, a two-toned stripe, or a green and white stripe is in good taste. With either of these the curtains should be of a plain fabric, rep or taffeta silk or velvet. A plain carpet will set off the furniture to best advantage and not clash with the figured walls. For upholstery, a two-toned damask or armure with two or three odd chairs in a contrasting color. If the room is paneled, a wider choice is possible.

Chintz or printed linen—there are many old-fashioned 18th Century designs, including some interesting Chinese—can be used for curtains and furniture coverings. In mahogany there is a great variety of delightful tables of all shapes and sizes, from substantial library tables to tiny, round ones just large enough for a book or a cup of tea or coffee. Medium-weight, stuffed furni-

(Continued on page 114)



In this room Chippendale chairs have been used effectively against a background of dull gold Japanese paper hung with Japanese prints



Airedale

The All-Round Dog

HIS ANCESTRY IS OBSCURE BUT HE IS A "SELF-MADE" DOG—THE MOST VERSATILE AND BIGGEST OF ALL THE TERRIERS—HIS POINTS, MANAGEMENT AND CARE

ANDRÉ NORMAN



LIKE most of the good things of life, the Airedale's origin is confused, if not obscure; but only a pedant would cavil at that. To those who know him and call him friend, it is enough that he is.

Out of the welter of fact and fiction regarding his ancestry, however, these points may be noted and are fairly well agreed upon. The streams and vales of Yorkshire were his first home and his owners were the mining-folk of that locality, who were looking for a rough and ready terrier for ratting and fighting. In his veins is the blood of the otter hound—a big, stiff-coated water dog; a good deal of the tan and grizzle terrier stock; probably a dash of bulldog and a sprinkle of collie. Thus, about 1880, he emerged, a stocky, upstanding water-terrier, and at once created a sensation in the dog world. At first a trifle pugnacious—remember he was bred for fighting—he has gained through the years in gentleness as well as in fineness, until now he stands alone as the biggest and best of terriers—the all-round dog.

A typical Airedale should weigh between 40 and 45 pounds. This fact of good weight is a most important one with the Airedale. In the early days of the breed there was considerable objection against classing him with the terriers at all. He was too big to "go to earth," it was said, and that was the *sine qua non* of the terrier. Even to-day, judging from the specimens at the shows, the difficulty seems to be in keeping him down to weight.

As regards conformation, the head should be long, tapering down smoothly from a broad, flat skull to the muzzle, with its lips drawn tight over the big, white teeth, which are extraordinarily even and firm. The eyes are dark brown and full of terrier expression. Small, triangular ears, carried rather peaked, are essential. The front legs must be as straight as two sticks, ter-

minating in firm and well-confined pads. His chest is of splendid depth, running narrowly between the front legs. The ribs are well sprung and the body is cut up somewhat in the loins. The thighs are firm and strong, with the hocks close to the ground, and the tail is carried gaily, like a pennon.

The color and quality of the coat is a most important feature of the Airedale. Rich tan on the head, legs and all underparts, and a blanket of blue-black grizzle on top, is the accepted combination. The darker the ears are, the better. Puppies are black and tan at birth, with quite smooth coats, which soon become wiry and tough. Any tendency to curl is faulty. Underneath this top-coat is an undervest of soft, wooly hair, which makes the Airedale practically impervious to water. This soft hair easily catches the dirt and the coat is apt to become irregular and tufted. This can easily be remedied with a stripping-comb, or even with the fingers, which will remove all superfluous hair. Care must be taken, however, not to pull out the long hair on the muzzle, as a good beard adds to the strong appearance of the jaw.

Summing up his points, you see in the Airedale a grand, strong animal that will do anything that a man will ever require of a dog. He is without a peer as a worker by the waterside after water-rats, musk-



A good specimen of the Airedale, with all the typical points of the breed

rats or otter; he can be trained, too, as a first-rate gun dog to do the work of the pointer, the retriever and the setter. He has also been frequently used in coursing hares. I have before me a letter from a sportsman who has used the Airedale as a hunting dog in India, in Australia, in Japan and in the Rockies. During his travels he hunted everything up to bears, and, as he says, "the only fault with the dogs was that they rushed in too fast."

But, with all his versatility, the Airedale does not disdain the humbler, domestic side of life. As a watchdog and a companion for the children he is thoroughly faithful, obedient and kind. I have seen one drawing a sleigh in Canada and enjoying it as much as the kids. He is noted for his attachment to his owner, and is self-contained, even reserved in manner. He is far from quarrelsome with other dogs; yet once started, he never lets up; he would rather die than turn tail.

Best of all, in the eyes of dog-owners, he is possessed of an iron constitution. In the early stages of his career he needs very little attention, and, when once grown to strength, he can stand an unlimited amount of rough wear and tear. He can endure any climate, and is now established from the Klondike to New Zealand.

Recently the German army formed several dog battalions for use as lookouts and searchers for wounded men. It was found that the Airedale was peculiarly adapted for this purpose, not only on account of his sagacity, but because of his nerve and strong sense of smell. In the trials among the German police dogs it was found that the Airedales scored eighty-two points out of a possible ninety, and clearly established their superiority over every other breed.

At a public exhibition of New York police dogs in Madison Square Garden in 1908, some trained dogs were tried out at man-catching; of all the entrants the Airedale was the quietest and

quickest at his job, and carried off first prize with great ease.

Stories about the Airedale are as numerous as flies around a sugar barrel in summer time, but the one about the dog in the Australian bush which was used for retrieving parrots is as good as any, and rather typical. These birds, which are a nuisance in Australia by reason of their great numbers, are frequently used in trap-shooting. A winged parrot is as nasty a customer as a cat in a trap, for he has very strong mandibles and talons like a hawk. By taking hold of the wing tip, this dog managed to bring back the biting, scratching quarry throughout the whole afternoon without losing his temper or once "lying down on the job."

These few chapters from the life history of the Airedale serve to illustrate the manner in which the breed has adapted itself to its environment and made good in every instance. No doubt they could be duplicated many times over.

Regarding the care of the Airedale, it must be borne in mind that, like all terriers, he is essentially an out-of-doors dog. A well-known veterinarian once said that most toy dogs are killed by kindness and most terriers die of neglect. Of course, the terrier should not be subjected to hot-house methods; on the other hand, he mustn't be treated like a bear. All a healthy terrier needs is a dry, clean place to sleep, food and

water at regular hours, and as much exercise as he wishes. The country owner should be able to solve all these matters without difficulty, but for the city man the problem is more difficult. By all means the kennel should be outdoors in a sheltered, dry spot, and kept full of fresh straw. I do not advise chaining under any circumstances, but if the dog shows a tendency to climb fences a convenient runway can be made with a stout wire strung along the yard, to which a leader is attached with a swivel. This will allow the dog to caper up and down to his heart's content. If you have two dogs, the chains can be adjusted so that they can fraternize easily.

As regards feeding, I have found that two meals are sufficient under ordinary circumstances. I am speaking, of course, of the dog not used for heavy work. A breakfast of cereal, or mush, with milk, and in the evening a dinner of boiled greens, with dog biscuit. Meat should be given sparingly, and then only after a thorough boiling. A good soup bone every now and then will serve to keep his teeth in good condition, and, besides, may prevent him from gnawing more expensive household furnishings. I have in mind right now a pair of trousers which I had inadvertently left in the way of a six-months' pup. When I examined them I felt like offering him the coat and vest as a bonus. Too much washing for a dog, like study for a man, "is a weariness of the flesh." It is apt to make the coat thin and dry, instead of hard and thick. It is better to use a stiff brush every few days and, if necessary, a comb to keep out snarls.

By all means, if you live in the city, take your dog into the country over week-ends. There is no better companion for a walk, and the way he goes bounding and charging over the fields, with head to earth and tail carried high, will be a delight to your



He is full of fire and ginger, and he never starts anything he cannot finish



The pups are naturally robust and do not require hot-house methods in bringing them up

eye. So popular has the Airedale been that he has gained friends and admirers very rapidly. Naturally there have been Airedale clubs both in England and in this country which have done a great deal to exploit the breed. The dog, however, has never lost his head under this attention, and has never been "cod-dled" into a mere bench favorite. He is too virile for that.

England, of course, claims the early champions of the breed, but of late years the quality and style of the native American stock have been increasing by degrees. Two of the best dogs now in America, however, were recently imported from England, namely, Patrick Oorang and York Ryburn Swell. Both are wonderful terriers, and carried all before them in the Old Country. They have not as yet been matched against each other on this side of the Atlantic. When they are put together on the bench it will be a battle worth watching.

Dogs, like humans, are heir to certain ills, and the Airedale is no exception. In the case of the terrier, small ailments will not bother him very much. His natural robustness will throw them off. When he does fall sick it will probably be a more serious complaint. A good rule to keep is that dogs respond readily to the same treatment as humans, although, of course, medicine should not be given in the same quantities. Generally, the dose for a terrier is about one-fourth of that for a man. It is not wise, however, to rely too much on one's medical knowledge or powers of diagnosis. It is best to call in a veterinary at once if things look bad. In giving the dog medicine, hold the head high and make a little pocket by pulling out the lower lip at the side. Into this the medicine may be poured from a spoon.

Every dog owner is afflicted with visions of distemper in his dogs, and the *bete noire* of the kennels is likely to break out at any and all times. Some kennels are singularly exempt from this disease; others are hardly ever without it. It is the most insidious of the germ diseases which attack the dog. Feeding utensils, bedding, water-vessels are all likely to become active agents for the spread of the malady. Scrupulous cleanliness and constant care are the only safeguards against it. Distemper is particularly prevalent among puppies. If its presence is suspected, the animal should be isolated and examined at once for any signs of fever. If its temperature is above the normal, 101° F., a veterinary should be sent for immediately. In any case, you have "locked the barn door" first.



As a friend and companion he is without a peer; he will do anything from playing with the baby to hunting bears

There is so much real enjoyment to be had out of the keeping of dogs, even if you never show them, that it seems a waste of opportunity for the man in the country not to establish a small kennel for breeding purposes. I think it will be found that the Airedale is an ideal dog for the venture. In selecting a spot for your kennel, the requisites of free admission of sunlight, pure air, free from draughts, dryness and drainage facilities must be borne in mind. Every outdoor kennel should have a run attached, surrounded by a wire fence about five feet in height. A cheap and entirely suitable kennel house can be made from a stout barrel raised above the ground on a couple of railroad ties. When this is filled with straw, a dog could wish for no more comfortable house. More elaborate and more durable kennels may, of course, be provided, but I am speaking now for the beginner on a small scale.

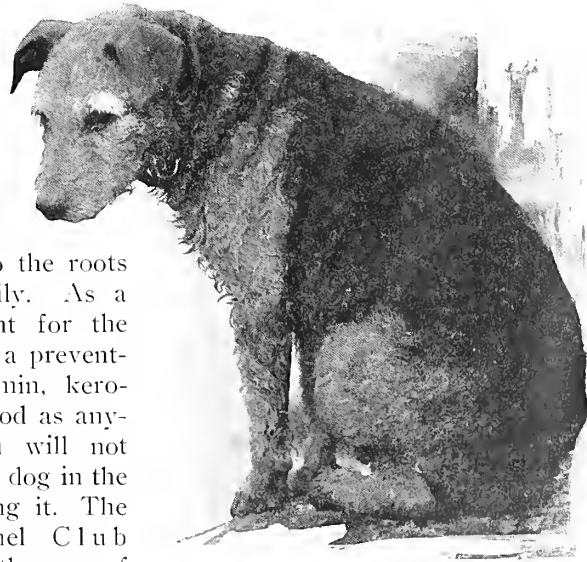
Breeding Airedales successfully is a matter of reading all you can about the dog, and then paying the best price you can afford for your parent stock. Most dog dealers are reputable men, and it will be found that the amateur can generally rely for their word in buying from them. It is a good plan to register your puppies with the American Kennel Club as soon as possible. In this connection, a recent ruling of the A. K. C. provides that after 1915 no dogs will be registered whose parents have not also been previously registered.

If you are going in for showing your Airedales, "condition" will be your first care. This is of two kinds, internal and external. If you have been taking care of your dog's diet and exercise, a few days of extra attention should make him physically fit. The condition of the coat is quite another matter, although, of course, general physical fitness keeps the hair growing properly. But the coat of the Airedale, as with all wire-haired dogs, has the most exasperating

tendency to become tufted and snarled. If you have not been in the habit of grooming your dog daily with brush and comb, then the task of preparing him for the bench will be doubly difficult. As an artificial aid, however, the following application will be of benefit:

Tincture of cantharides, ½ oz.; oil of nutmeg, ⅛ oz.; lavender water, 10 ozs.

This mixture should be rubbed well into the roots of the hair daily. As a general stimulant for the coat and also as a preventive against vermin, kerosene oil is as good as anything. But you will not want to keep the dog in the house after using it. The American Kennel Club does not allow the use of scissors or knives in trim-



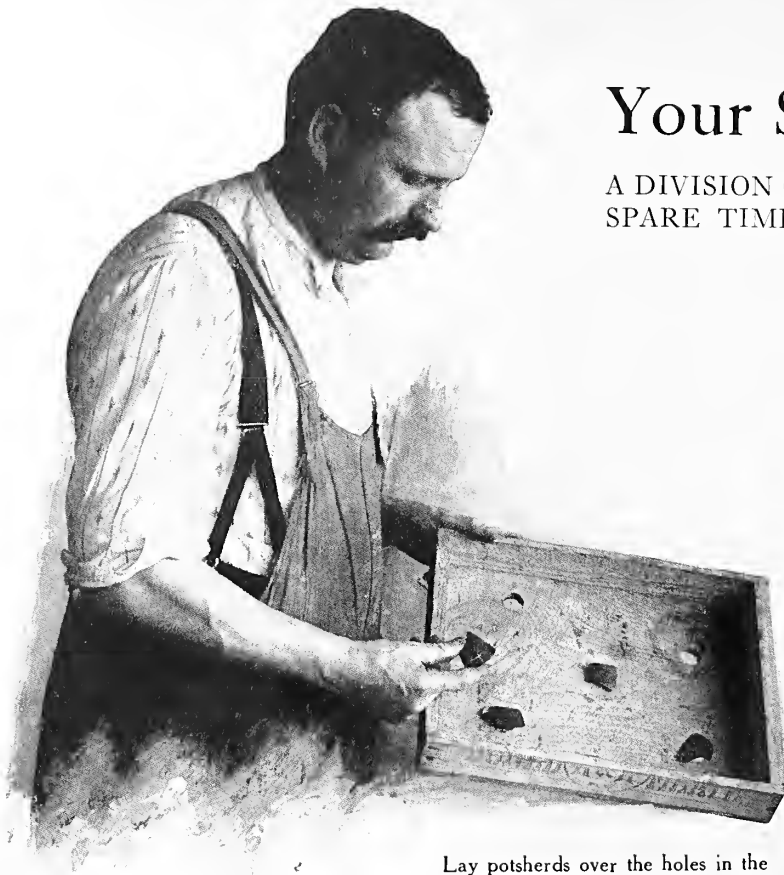
He has been well named the "biggest and best terrier"

(Continued on page 73)

Your Saturday Afternoon Garden

A DIVISION OF GARDEN WORK ACCORDING TO YOUR AVAILABLE SPARE TIME—MAKING FLATS—HOW TO START SEEDS INDOORS

D. R. EDSON



Lay potsherds over the holes in the bottom of the seed flat to insure proper drainage

ABOUT the most exciting thing that happens during the first part of February is the arrival of the new catalogues. If the seedsmen would only send out the same catalogue each year, making out the seed order would be a much simpler undertaking. One is tempted to try the luscious new muskmelons, pictured in full colors, in preference to the variety that is given only a few lines of cold, black type, even though the latter sort may have been tried and found satisfactory. The brand new sort, one suspects from former experiences, may have nothing new about it excepting the name on the packet; still, one can't be sure, and, according to the printed page, it is so fine that one hates to take a chance on missing it. As a general rule, it is safer to depend on sorts with which you are familiar for your garden, and to buy these new things only in amounts large enough to give them a fair try-out. Most of the standard varieties and the newer sorts which all seedsmen list will be found satisfactory if you get good seed—seed that will not only show a strong percentage of germination, but that has been carefully grown from selected stock and that is true to type. Deal only with firms in which you have confidence.

Though selecting the various varieties is interesting, the problem of deciding just how much to order is as important. This should be figured out accurately so that you will be sure to have neither too much nor too little. The amount of seed or the number of plants of the different vegetables required for each fifty feet of row is approximately as follows:

Asparagus, 50; beet, 100-150; cabbage, 35; cauliflower, 35; carrot, $\frac{1}{2}$ oz.; celery, $\frac{1}{2}$ oz.; endive, $\frac{1}{2}$ oz.; lettuce (seed), $\frac{1}{4}$ oz.; lettuce (plant), 50; leek, $\frac{1}{2}$ oz.; onion, $\frac{1}{2}$ oz.; onion (seedling), 150; parsley, $\frac{1}{2}$ oz.; parsnip, $\frac{1}{4}$ oz.; peas (smooth), 1 pt.; peas (wrinkled), 1 pt.; potato, $\frac{1}{2}$ pk.; radish, $\frac{1}{2}$ oz.; salsify,

$\frac{3}{4}$ oz.; turnip, $\frac{1}{2}$ oz.; French broccoli, 35; and Swiss chard, $\frac{3}{4}$ oz.

For late or tender crops the following applies: Beans (early), 1 pt.; beans (wax), 1 pt.; beans (lima), 1 pt.; beans (pole), $\frac{1}{4}$ pt.; beans (pole lima), $\frac{1}{4}$ pt.; beets, 1 oz.; brussels sprouts, 35; cabbage (late), 25-35; carrot, $\frac{1}{2}$ oz.; cauliflower, 25; corn, $\frac{1}{2}$ pt.; cucumbers, $\frac{1}{4}$ oz.; egg plant, 25; lettuce, $\frac{1}{4}$ oz.; melons (musk), $\frac{1}{4}$ oz.; melons (water), $\frac{1}{4}$ oz.; peas (late), 1 pt.; peppers, 25; pumpkin, $\frac{1}{4}$ oz.; radish, $\frac{1}{2}$ oz.; squash, $\frac{1}{4}$ oz.; tomato, 15-20; turnip, $\frac{1}{2}$ oz.

If you know how many rows of each of the vegetables you expect to plant and how long your rows are it is an easy matter to figure out just how much seed you will need. The proportionate amount of seed contained in a package of the various things can be approximately estimated by the price per ounce. Of those seeds that are cheap, you will get a larger amount in the package than of the high-priced sort.

At the same time that you make out your seed order the planting plan for the garden should be made. Take the sketch of the place, drawn to scale, that you made last month, and on a separate piece of paper draw an outline of the garden, making it as large as is convenient, so that a foot of space in it can be plainly shown. Usually it is more convenient in the garden in which many things are to be grown, to run the rows the short way of the garden. It facilitates the weeding later.

In arranging the different crops in the plan, they should be placed with regard to convenience in planting and cultivating, and to putting in the succession or follow-up crops, which will occupy during the latter part of the season the places in the garden which have been cleared of earlier crops. The very first classes of things to go into the garden are the hardy plants, such as cabbages, beets and lettuce and, a little later, cauliflower, and such cold-weather seeds as onions, parsnips, salsify, radishes, spinach.

WHAT TO DO IN FEBRUARY

6th—Consult your garden plan, and according to the directions given there make out the seed order.

13th—It's about time to get your frames ready. Work this afternoon would complete the job.

20th—If your flats are made, start your seeds to-day. Making flats takes but little time and the planting can be finished before supper.

27th—Measure your garden plan by the table given here so that the planting can be carried out systematically.

Beginning at one end of the plan, put down the various vegetables as nearly in the order in which they will be planted as possible. The amount of space each item will require should, of course, be drawn in to scale. It is not important, however, to show on the plan the length of the row, and, therefore, a vertical line may be drawn through the plan or through as much of it as will be available for the second planting and for the succession crops.

Where space is very limited, "inter-planting," or planting two crops at the same time, one of which will be used and out of the way by the time the other one will want the whole space, may be employed to great advantage. In this way, lettuce may be planted between cabbages, either between the cabbage plants or between the rows, if they are far enough apart; and again, later, between hills of pole beans and tomatoes. Radishes may be planted between rows of carrots; one row of turnips and two rows of radishes between rows of tall peas. Carrots are sometimes sown between rows of onions in June; sweet corn may be started in the middle of the furrows between rows of early potatoes; squashes may be planted or set out, from paper pots, between rows of early peas or beans which have been set purposely far apart. There is no limit to the skill and ingenuity which the gardener may use in accomplishing what must become his aim—namely, to make his particular plot of ground yield the utmost both in quality and quantity.

With the seed order made out and safely sent off, the thoughts and the activities of the gardener must be turned at once to making preparations for giving such seeds as must be started early in heat the proper conditions to thrive and produce strong plants. Unless there is a small greenhouse on the place, the hotbed and coldframe used in combination offer the most effective means for this early gardening. If the frames were properly protected last fall there should be little or no frost in them. It is time now to get both the hotbeds and coldframes ready for use. While the latter may not be required for some weeks yet, the sooner the ground can be got into condition for working and warming up, the better. See to it first of all that your sashes are in repair and tight, and patch any holes that may be starting in the mats.

The vital part of a hotbed is the manure used to furnish heat. Unless it is of the right kind and used in the right way, the bed will be more or less of a fizzle, no matter how much care you may take with the soil and seed and watering. Horse manure, and especially that from livery stables or other places where the animals are fed a good deal of grain, ferments very rapidly when kept in a heap, and this fermentation creates a surprising amount of heat. If thrown into an ordinary loose pile and left there, the heat will be generated so rapidly that the mass will soon be burned out or "fire-fanged." What is wanted to maintain the temperature in a hotbed is a slow, steady heat. In order to secure this, the manure must be stored first in a compact heap, each layer thoroughly tramped down, and preferably, to save work in handling, made near the bed in which it is to be used. If it is packed correctly, the little snow or rain which may fall on it before it is used will be beneficial, rather than harmful. The heap should be kept at all times moist; it may be necessary to pour a few buckets of water upon it, especially on the center. A week or ten days after the heat has

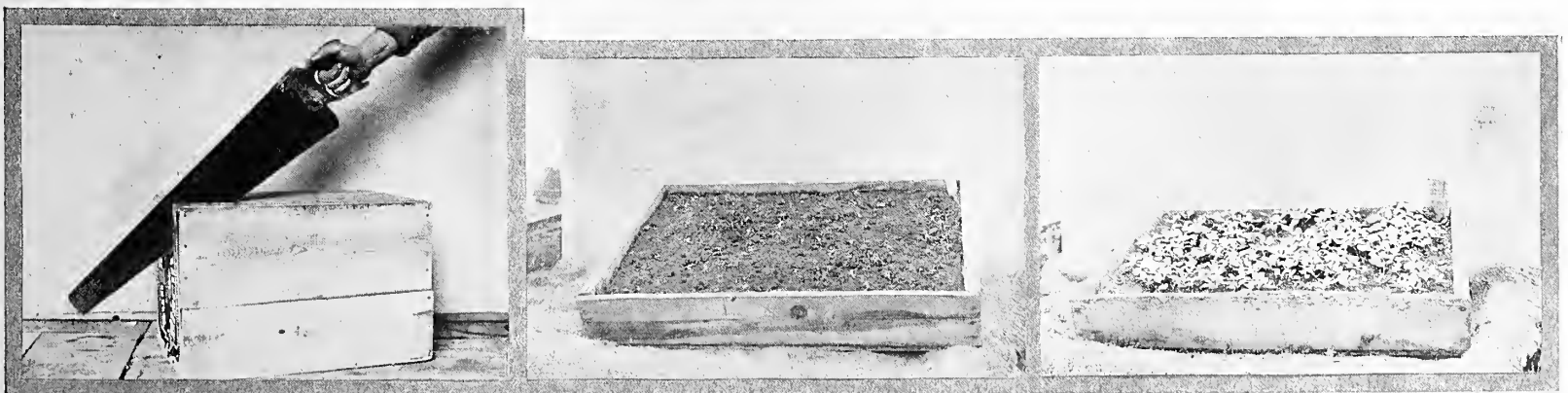
been made and it is fermenting thoroughly it should be forked over. Also apply water to any parts of it which may have become dried out. At the end of a week or ten days the pile should be in a state of active fermentation from top to bottom, so that it is hot and steaming wherever you take out a forkful. For best results a certain amount of bedding or short straw should be mixed with the manure. If it seems to be lacking, mix leaves, straw or some other absorbent.

While the manure is being got into condition the frames should be cleaned out and the necessary repairing attended to. If the old manure from last year's hotbed is still there, remove it and save it, under cover, for use in connection with plants that you start and for transplanting work later in the garden, as it is in ideal shape for these purposes. Six inches of soil should be removed and thrown up into one end of the frame; then put in the manure from 15" to 30" deep, according to the climate of your locality and what the bed is to be used for (24" will usually be enough). Tramp it down firmly and evenly. Over this spread the soil which has been removed, and then do the same with the corner which has not before been dug out. If the hotbed frame is large enough for several sashes it will be wiser to put an extra amount of manure under one or two of them, so that a higher temperature may be maintained for tender plants, such as tomatoes, egg-plants and peppers. Even where the same amount of manure is put under all the frames, a partition of thin wood or of cardboard may be inserted, so that one of the frames, by being given less ventilation, may be kept at a higher temperature. As soon as the soil over the manure is sufficiently dried out and mellowed it should be finely pulverized and raked thoroughly. It is best to leave the bed to heat for a few days before planting.

By the time you have these things done and everything in readiness for planting, your supply of seeds will likely have arrived. Go over the packets and pick out for starting at once, beets, cabbage, cauliflower, early celery and lettuce; also Spanish onions if you intend to grow them from seedlings. If you are planning to do this work upon a Saturday afternoon, take the second or third Saturday in February, according to the date on which it is usually safe to begin planting outside in your vicinity. The actual work of planting the seeds, if one has everything in readiness, will take but a few minutes.

Some gardeners make a practice of sowing the seed directly into the soil of the frame. In exceptional instances this may be of advantage, but generally it will be better to sow them in home-made flats, which can be cut easily from soap boxes. They should be a couple of inches deep for starting the seed, but if you expect to use them later for transplanting, they may be made three inches deep and filled only partly full of soil for seed sowing. The soil used should be made very light and porous, by mixing with the garden soil sifted, rotted sod, chip dirt, or any similar light

(Continued on page 114)



Cut the flats from ordinary soap boxes; one box usually furnishes enough for three flats

Over the drainage shown on opposite page place well-pulverized soil and sow seed lightly

After plants have attained a growth, as here, thin them out, planting the strongest of the remainder in another flat



Away to the far horizon stretches endlessly the green-brown prairie, or the sea of reeds and rushes of the marsh, desolate, forlorn, monotonous. Yet in its distances the wildfowl breeding ground is majestic; in its silences, pierced now and again with bird cries, awesome and serene

Through Wildfowl Breeding Grounds

THE WASTE SPACES OF THE NORTHWEST WHERE WILD BIRDS FIND A HOME TO REAR THEIR YOUNG—MATING TIME IN THE MARSHES AND MUSKEGS—A PLEA FOR THE PROTECTION OF NATURAL PRESERVES

HERBERT K. JOB

State Ornithologist of Connecticut

Photographs by the Author

WHERE go the wildfowl to breed, those wedges of honking geese, high overhead; those lines and masses of swiftly-moving ducks that skirt our shores or drop into our streams and lakes on their swift journey northward in the early spring?

As a class, our American wildfowl are loyal to the call of the North. A few kinds, notably the wood duck and

much the North as the Northwest. Though a few species, particularly scoters, eiders, and the oldsquaw, follow the North-Atlantic coast line to their distant breeding grounds, the majority of them strike across the land somewhere and hie them to the marshes, pools and muskegs of the Northwest interior, even many species that in winter are distinctly maritime.



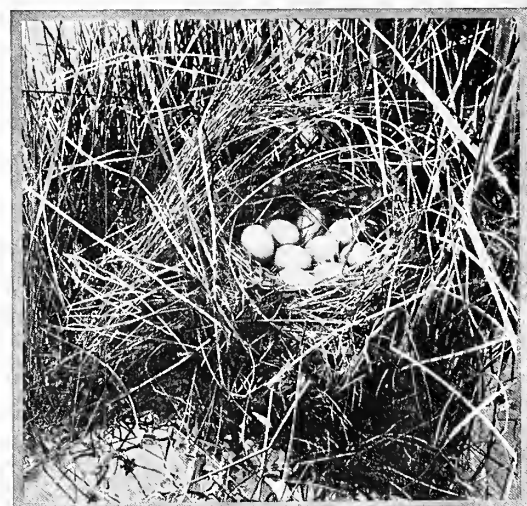
On an island lake in Saskatchewan the fluffy nest of a wild Canada goose in dry stony land in the grass

black duck, breed South as well as North, and a few others occasionally. But the majority find annual attraction in the northern wilds. Creatures of habit, they are impelled by the ways of past generations to seek out again the place of their birth.

There is a strange thing about this habit: the rendezvous of the wildfowl is not as



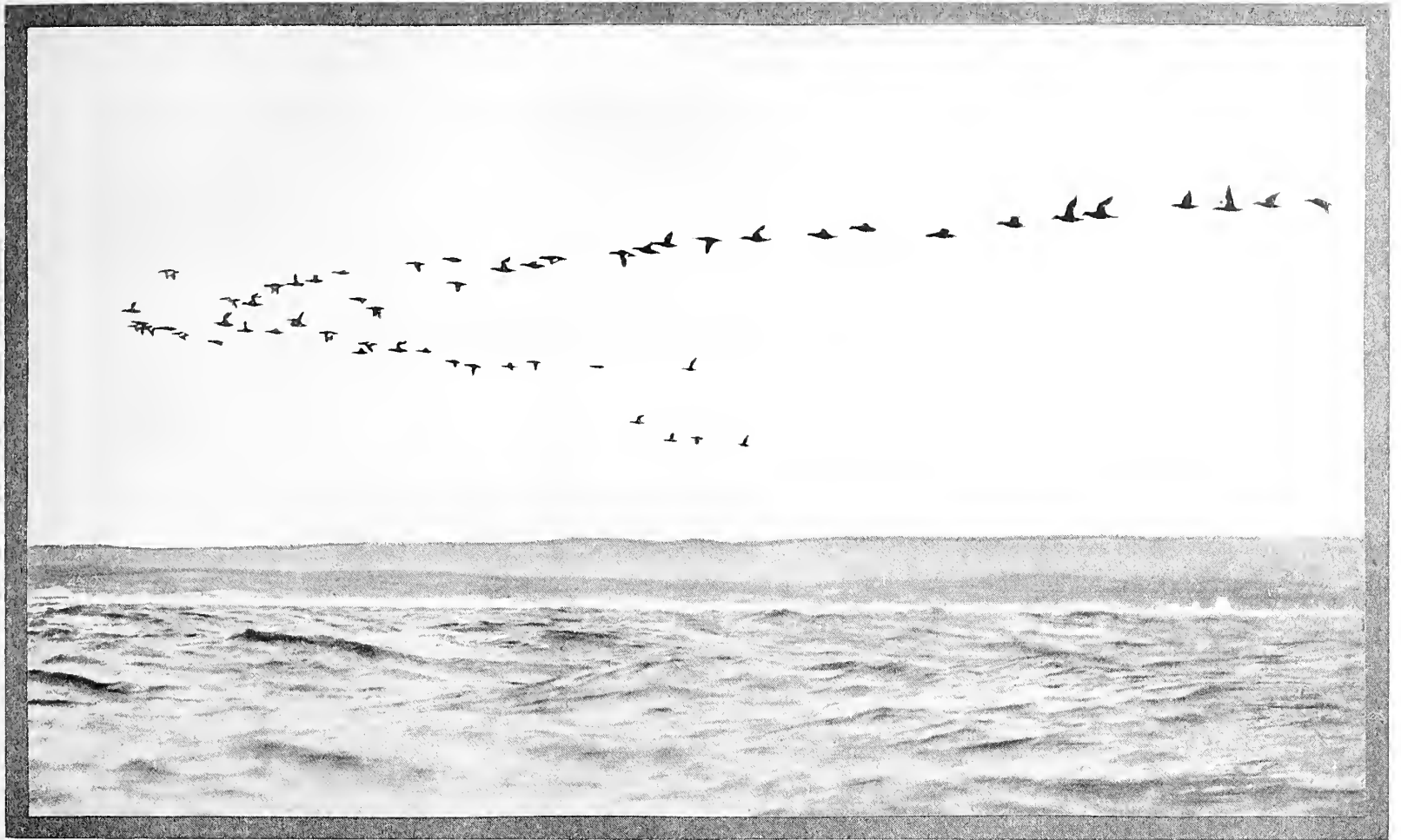
Soft reeds picked out with down—the nest of the toothsome mallard duck by the prairie slough



The nest of a lesser scaup duck fashioned about like an ark of bulrushes and hidden by tall reeds

There we find them in May, swimming by pairs in the sloughs, in beautiful nuptial plumage, or settled down for the summer to breed.

The southern edge of this region is the prairie country of Minnesota and North Dakota. To the north it includes Manitoba, Saskatchewan and Alberta, and thence



A wedge of honking scoters migrating from the morasses of the north. Their nesting habits are peculiar—the female buries her eggs in the loam beneath a tangle of vines and grass until all are laid, then she uncovers them, builds a nest, and lines it with down picked from her breast

north to the Arctic Sea, and even the lands and islands further north; likewise the marshy portions of Alaska. Around Hudson's Bay and at the deltas of the Arctic rivers are notable breeding areas of marsh and muskeg. Not all of the great area, by any means, is breeding ground, for much of it is forested or rocky and unsuitable for ducks and geese. But scattered over it are localities enough of the right sort to produce an enormous number of fowl.

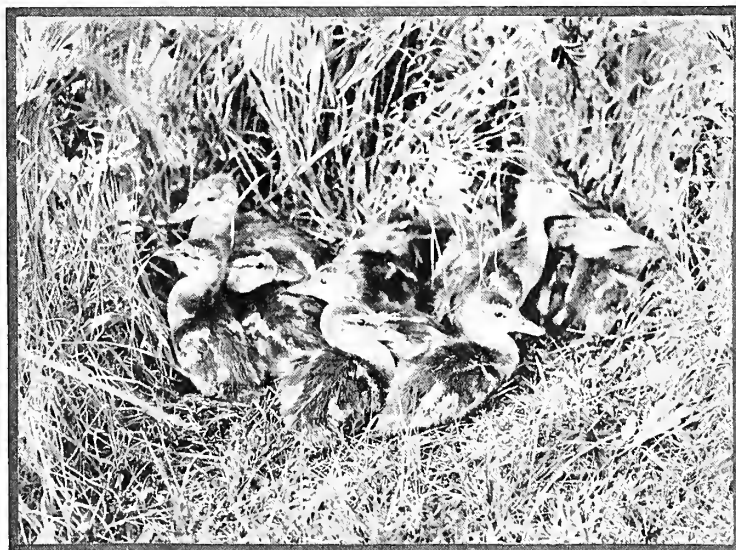
On my first exploration in North Dakota I started out on a six-weeks' tour with guide, double rig and camp outfit. Not everywhere, by any means, did we see fowl. Some days we drove forty miles over the dry, perfectly flat prairie; sometimes on roads, again on mere trails through the short, dry prairie grass, without meeting a duck. Then we would see, perhaps, a series of shallow, marshy pools, with grass or rushes growing from the water. There we pitched our tent and spent the night. The water was usually about knee-deep. As I beat through the grass at the edge or waded out to the clumps or areas of rushes, a female duck would flutter from the tangle at my feet and reveal her carefully concealed, down-lined

nest and in it a hatful of eggs, usually from eight to eleven.

On that first jaunt, the first duck's nest that I discovered was a pintail's, by the shore of such a pool, or "slough," as it is called. The second nest was revealed a few moments later, when I waded out toward some rushes, and a big gray canvasback sprang from her "ark of bulrushes" and went fluttering over the water. In another slough a few days later I saw eleven species of wild ducks swimming in pairs; and I was able to locate many of their nests in the slough or in the prairie grass adjoining.

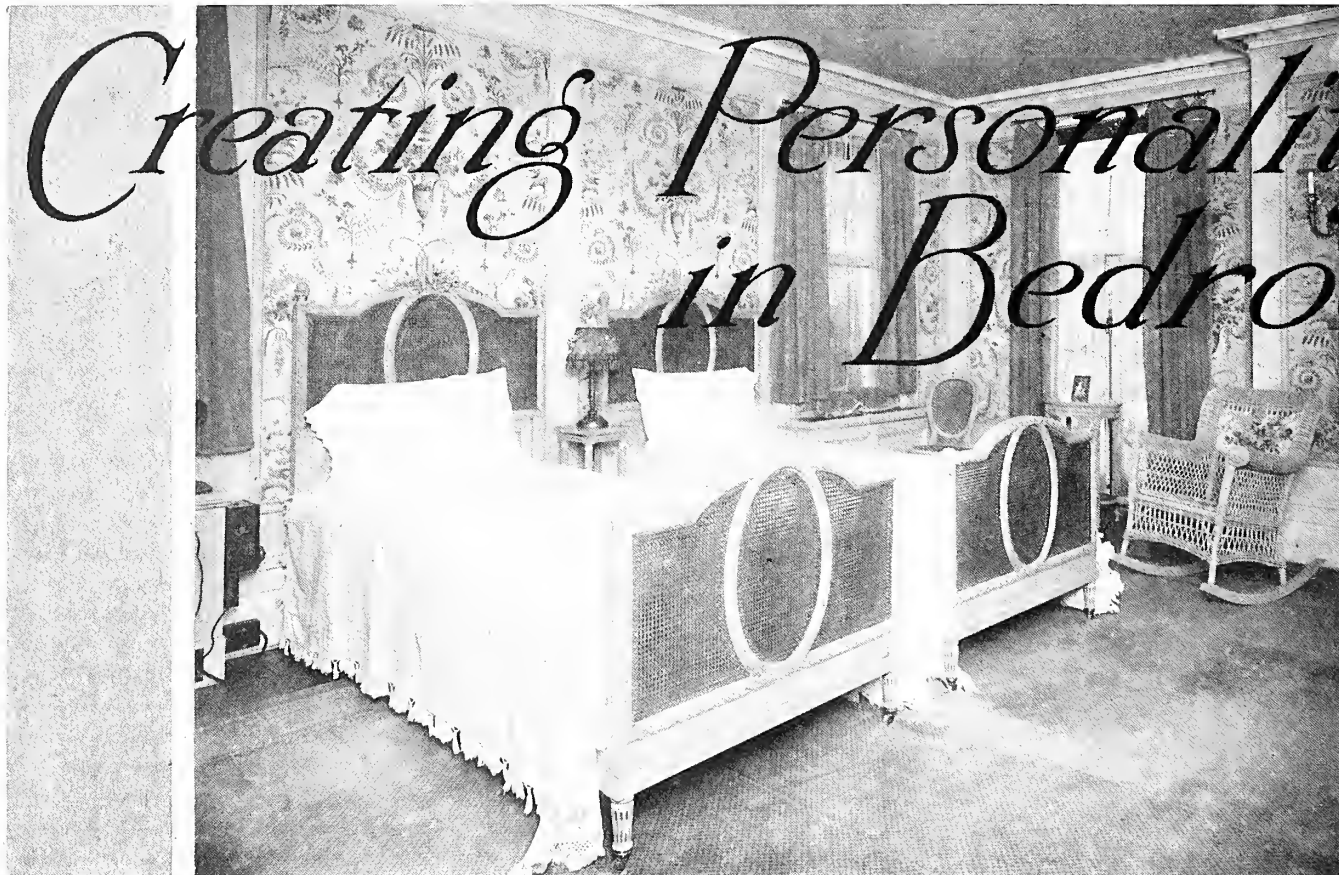
Other favorite breeding locations in such regions are dry islands in the larger lakes: sometimes partly stony, overgrown with weeds, grass and low bushes. Years ago I happened upon a group of small islets of this character, where, on the landing of our party from a boat, dozens of ducks fluttered off their nests, and even some wild Canadian geese.

Another remarkable island was in a large lake in Saskatchewan. This was a grassy island about half a mile long, and the grass was full of nesting ducks. One day we flushed sixty of them from their nests. Next year one of my party went there with another ornithologist to
(Continued on page 115)



By the prairie sloughs the gadwall makes its nest, and the brood stays around home while the mother goes foraging

Creating Personality in Bedrooms



A Louis XVI bedroom, with the spirit of a Watteau woman expressed in its detail of cane and carved furniture and paneled walls. It is to be regretted that the mistress failed in her arrangement of bedcovers, for even by such minute mistakes can the effect of a good room be spoiled

THEIR FURNISHINGS AND DECORATIONS ACCORDING TO OCCUPANTS—THE ESSENTIALS FOR MEN—THE GRANDMOTHER'S ROOM—WHAT THE GUEST ROOM SHOULD EXPRESS—GENERAL RULES FOR BEDROOMS

AGNES FOSTER

IS there anywhere in the world that a woman is so completely herself as in her bedroom? It is her little domain, and there she is supreme. And it is usually her dream to make it an expression of herself, if so complex a thing as a woman can be expressed—even to herself. So milady dreams of what she will do with that room, and the whole gamut of possible schemes passes through her ambitious head.

Who of us has not formed a resolution in those early hours that this year the curtains shall be rose, a gay rose? We are tired of those dull, old, blue ones. Or if the present ones are a matter of little interest, we promise ourselves that in our next apartment our bedrooms shall be mauve with a little yellow, say, or in the spring we'll repaper the wall with a gray stripe. Maybe we will call in a decorator to suggest the change, but decorators will all tell the same story—that a woman is never less docile and pliable than in the matter of her bedroom.



For a business woman, a room of more severe lines—no frippery, no dust-catchers, the sort of room for a small city apartment

And as to men's, it is generally settled thus: "No frippery, if you please, madam. No, I hate pink. And I don't want the kind of curtains that blow out the window." The decision is indisputable.

The rule does not hold that because a woman is blond, blue-eyed, with light curls, that her room is pale pink and blue, but the general furnishing of her bedroom will lead you to suspect the curls and the blue eyes. So, for this dainty lady—and there are hundreds of her kind—let's plan a suitable room: small in scale, a favorable setting for her Watteauesque self. Watteau! What could be better than a Louis XVI bedroom?

The walls can be treated either one of two ways; the simpler method is to panel them and paint the woodwork cream; or they may be paneled in damask, with a buff background and rose figures. The woodwork inclosing the rather large panels would be painted cream. At the windows two-toned taffeta hangings of rose and buff, or a less expensive, soft silk

fabric. These are rich, but unobtrusive. It is the wall paneling that must be given prominence with a graceful pattern of flowers and arabesques. Against the glass could be thin, scrim curtains, used both to soften the light and to preserve the silk from the direct sunlight. On the floor would be a small-figured velvet carpet of deeper rose.

The furniture, of course, would be a Louis XVI design—cane and carved wood of a rich, deep cream. Nothing is more lovely than a piece of period furniture when the workmanship is excellent, the carving to the least detail consistent and carefully wrought. And nothing is worse than a bad reproduction of a period piece—witness the horrors of Louis XV "parlor suites"!

A dainty little table of Adam design fits in well with this scheme. These two styles mix amicably. The chairs should be of carved wood and cane, reproducing the details of the beds and the pretty dresser. Between the beds could be placed a stand, a composite of Adam and Louis XVI. On it could be placed a gold lamp with a rose shade, decorated with a garland of vari-colored flowers.

Here and there in such a room would have to be touches of blue—some of the chairs upholstered in a blue stripe brocade, relieving the feeling of too rosy an atmosphere. In short, such a room would have the spirit of a nosegay plucked from the gardens of the Trianon. In furnishing and decoration it creates the personality of the dainty feminine type.

An extremely different type from this is the bedroom for the business woman. She shares with men the abhorrence of frippery and dust-catchers. In the modern apartment, space is at a premium, and one has much to adjust. In fact, acquire the habit of elimination, rather than accumulation: it will help to make

the bedroom the easy resting-place it should be in an apartment.

There may be in the room an unnecessary door or a window with an unpleasant outlook; if so, it may be covered with a large-figured damask or a less-expensive rep, hung in plain, straight folds, forming a rich background for the dull-finished wooden bed. The lines of the room are severe, dignified and restful; a retreat that promises solace to the overtaxed nerves of the business woman.

The walls could have a striped paper of gray, and the colors of the damask, the carpet and the bedspread could desirably be Saxony blue with rose, dull green and corn colors that combine so beautifully with it. There is a feeling of perfect sanitation, perfect repose and richness, which it would seem are the chief requirements for a bedroom.

A small dressing-table with a triple mirror, a good-sized chiffonier, and, in lieu of a cheval glass, a mirror set in the door, a combination that answers the purpose of a large bureau. Especially when closets are so small as in city apartments, one needs a large chiffonier. A compact desk, a little sewing-table, a couple of straight chairs and one comfortable upholstered chair done in blue velour, would complete the room.

At the windows, linen hangings, repeating the colors of the damask—the linen possibly striped with black—are effective. These same stripes can be appliquéd onto a heavy, linen bedspread, which makes a handsome and quite serviceable covering.

Often a business woman's bedroom has to serve also as a sitting-room, so it is best to keep to rather dark tones and to make as little of a feature as possible of the bed as a bed. Maybe a brass or iron bed is preferred; in which instance, of the two a white iron bed of good lines is preferable to the glittering bed of brass,



The comfortable armchair before the fireplace and the well-equipped dressing-table, with its triple mirror, will be appreciated by guests. There is an interesting treatment of the radiator that suggests a successful way of hiding this ugly feature

which is invariably commercial looking and unpleasantly reminiscent of St. Lawrence's gridiron. The popularity of brass beds, we may be thankful, is on the wane. They make an ostentatious display, whereas there is a seemliness to a white iron bed, as a bed, that the brass lacks.

A Colonial bedroom is a joy to furnish, since such remarkably good reproductions are made. Then, too, many of us are proud possessors of at least one heirloom, and, making this our *piece de résistance*—providing it is worthy, of course—we build up a room with more knowledge than when we attempt any other period. For the Louis lived such a long time ago, and we have little knowledge as to where the Brothers Adam placed their masterpieces.

Doubtless, the Colonial has been overdone, and sometimes those who inherit an ugly Colonial empire table have not the courage to pack it away in the attic. By itself, the Colonial is often harsh and too sparse, therefore the use of a French chintz gives an air of vivacity and cheeriness. Nothing is more successful than this combination.

In a Colonial room the bed is preëminent. There are many really lovely types. For the larger room, the high poster with its valance is preferable; but for the small room, the low posters cut a room up less, and still give the old-fashioned air that is such a charming background for many women.

There are many ways to treat a four-poster. If the other hangings in the room are of a varicolored cretonne, it is wiser to keep the valance and cover white or cream. This gives the bed a restful air and does not detract from the well-turned posts. If the room is simple and in monotone, a gay, old-fashioned chintz valance can be used to good effect. If a striped cretonne is used elsewhere, by using a plain fabric on the bed and edging it with strips of the cretonne, a striking effect is attained. Above everything, avoid making the bed look fussy.

In a room where much mahogany is used it is rather distinctive to place a few pieces of wicker of a lighter color than the mahogany to offset the rather monotonous effect of the latter. Or else use some decorated furniture—two chairs and a small table will give much relief to an otherwise monotonous room. There are lovely little black chairs with rush seats, and on the splats at the back is a prim, formal nosegay. This decoration may be repeated on the sewing-table drawers. If you have a very heavy

chest of drawers, place it so as to form part of the background of the room, as though it were built for just that space. Avoid having it look like a detached piece of furniture. Do not accentuate its heaviness.

For the walls there come quaint calico papers looking like old block prints, and the colors being simple, they form an excellent background for decorated furniture. Plain wall papers are generally more satisfactory in every bedroom, although in a guest room a paper with a chintz design is rather refreshing; then, too, one does not have to live long enough with it to tire of it.

Older people are usually fond of these chintz papers, and for the real grandmother comes one with much lavender among the flowers. With it, plain lavender hangings at the window frames the picture outside. The furniture would be white, and there could also be used a large wing chair upholstered in lavender of a deeper tone. Old people need clean, clear colors. It is a shame to put drab around a person who loves most to live in the memory of gay-flowered days.

There is a prevalent notion that in a Colonial room rag rugs must be used. This is rather a pity, as they certainly can prove themselves a nuisance, never lying flat, flying around at all angles, easily kicked and readily soiled. They have but one virtue—their cheapness. A Scotch rug has the same "home-made" look and gives three times the service.

If one should lean to the ultra-modern, a very charming room can be made by using a futurist chintz of not too violent design or color. For example, there is a buff and black striped chintz with very smart little bouquets of mulberry green and blue. On the floor use a black carpet—distress to the maid, but joy to the mistress; and keep the walls a light buff. Against this combination place clear, green-painted furniture, decorated to harmonize with

the bouquets on the chintz. Have as few pieces of furniture as possible for comfort. If, instead of the buff hangings, black and white figured curtains of well-woven linen to insure richness are used, the room will have a certain finesse. In every case where something out of the usual is attempted much discrimination must be used; an ill-placed note of color will spoil an expensively furnished room at once. The stronger tones one uses in the color scheme, the more difficult is its handling. It is not such a

(Continued on page 118)



Fortunately the popularity of brass beds is on the wane. One need but visualize small wooden four-posters here to appreciate the change



Painted furniture fits in well in a Colonial room. Here also is shown the advantage of having plain valances to the bed and a more lively chintz at the windows



Wide porches with Corinthian columns, stone floors and flower boxes run across the front of the house and around the left wing. The generous width of the steps, a characteristic of the South, gives striking approach to the entrance

THE EVOLUTION OF "LONG VIEW" AT NASHVILLE, TENNESSEE—A HOUSE BUILT AROUND A HOUSE
—WHAT THE HALLWAY MEANS TO A SOUTHERN HOME—THE ATMOSPHERE OF ITS GARDENS

ELISE WARD MORRIS

Photographs by M. W. Wiles

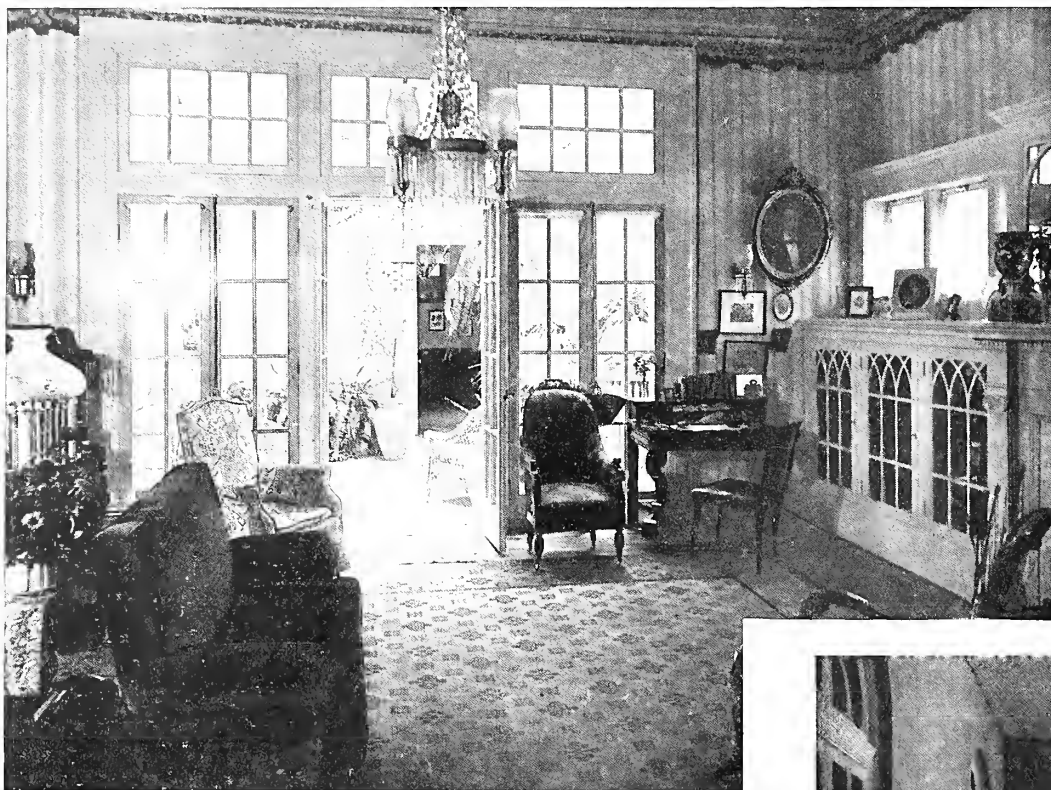
THE South is essentially a land of homes; not "places." Possibly the inborn love of sentiment, so characteristic of the native Southerner, is what lies at the root of this home-loving, home-making instinct. Or it may be an inheritance from Anglo-Saxon forefathers who fought for the privilege of building their own homes on their own lands. Anyhow, there is a feeling in the South about one's own home that cannot be conjured up when contemplating one's neighbor's house, even though the garage of the house next door may have cost more than the "home."

To own a country or suburban house in the South and not name it would be as odd as permitting the newest baby to grow up with the same lack of individuality. "Longview," the home of James E. Caldwell, of Nashville, Tennessee, was christened more than thirty years ago. Then the present house was in its embryo stage of a five-room cottage. The evolution of the present "Longview" from its original cottage state has been gradual, but each improvement bore a permanency. Whether it meant planting trees on the front lawn, once part of the old field on which the battle of Nashville was fought, or adding rooms or porches, it meant one step towards realizing a certain ideal. Each alteration has been made after careful planning and loving thought, to meet the need of a growing family, and yet to keep the house in proportion, and, though several additions have been made, the

original house has been preserved, forming the heart of the home. The affectionate interest and needs out of which each addition was born have gone to make of the house not a confusion of rooms and hallways tacked together, but a home of excellent and artistic proportions, betraying a singular sense of individuality.

"Longview" stands on a gradual rise above the road, double-winged, modified Colonial in architecture, with a winding road that leads from a rose-grown, stone-pillowed gateway. Directly before the house the lawn is unbroken with trees or shrubs, but to the immediate sides, and at a short distance between the house and the road, flowering shrubbery and great shade trees stand in generous growth. The stretch of open, trimmed lawn gives to the house a suggestion of an English home, and brings into clearer relief the stately dignity of its lines. The driveway is bordered by trailing roses and honeysuckle. To one side of the driveway an arbor bears, from early spring until fall, a joyous burden of crimson ramblers and wisteria.

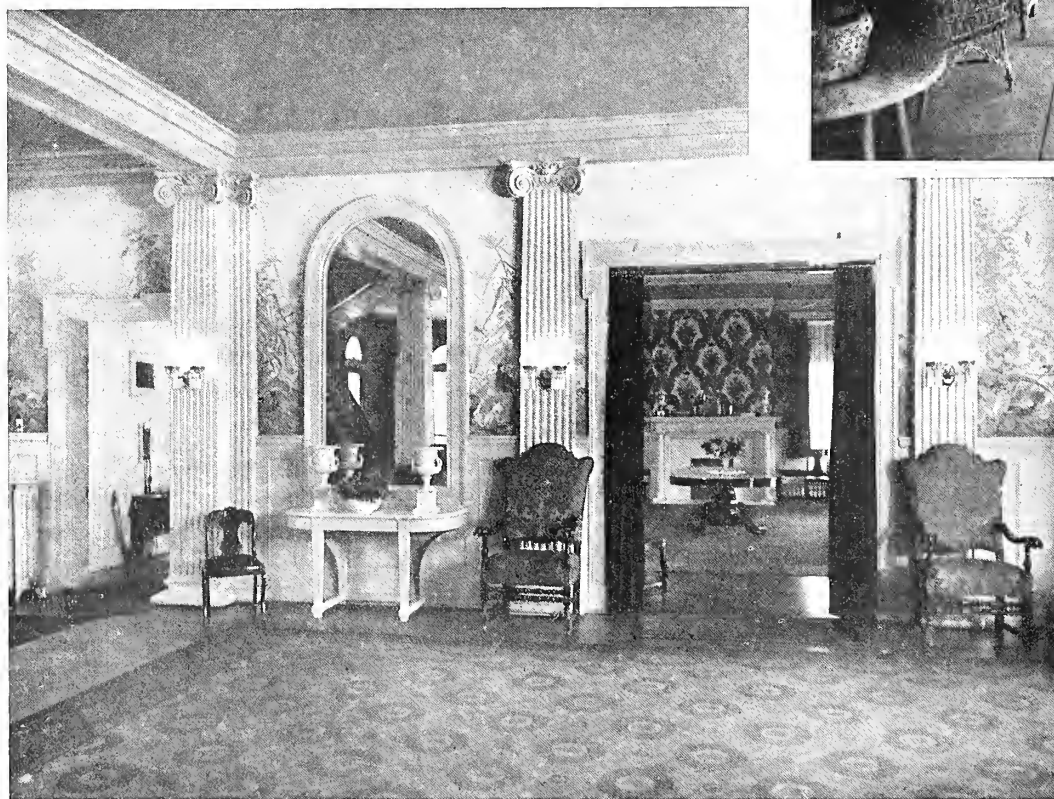
Wide porches, with Corinthian columns, stone floors and flower boxes, run across the front of the house and around the left wing to the rear. Before the windows of the right wing are small iron balconies of an early style of architecture. The side porch is well shaded, its generous width permitting the possibility of a summer living-room. All summer the flower boxes are



At the end of the hall is a small court, with living-room adjoining. It was a bedroom when the house was only a cottage

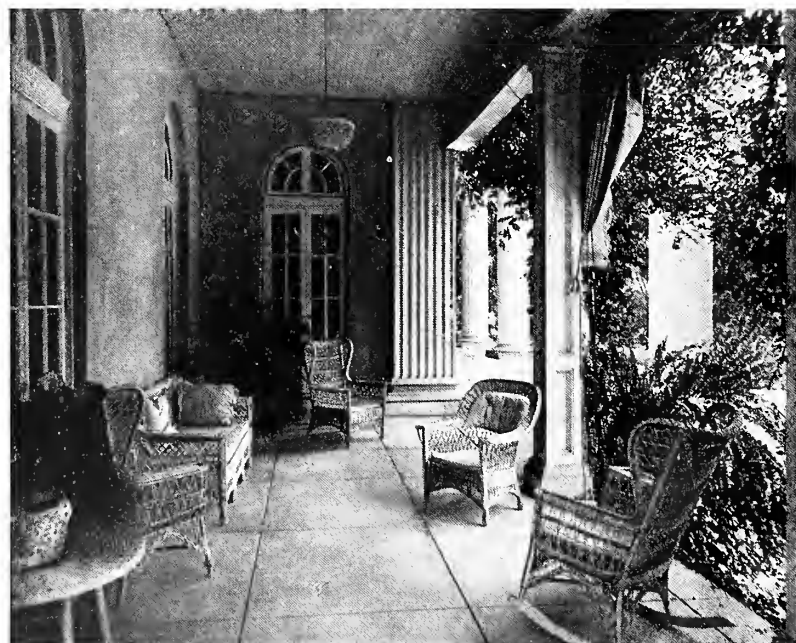
kept filled with pink geraniums. Green, Chinese willow furniture is used here, and the same tones of geranium pink occupy an inconspicuous place in wall pockets and rugs, and in the cushions on couch and chairs.

The most impressive feature of the house is its great hallway. After the fashion of old Southern houses, the hall runs the full length of the house, opening at the back into a



A corner of the hall looking into the dining-room. Above the wainscot is a gray-blue paper showing tropical scenes. The furnishings and draperies are soft greens save the two big chairs that are upholstered in old rose

small glassed-in court. The woodwork in the hall, as carried out in every other part of the house, is white. Above the wide Colonial doors and windows fan-shaped lights are used. The walls are wainscoted in white; above it a pale, gray-blue tone, showing tropical water scenes. In trees and water of subdued colors are life-sized birds with quiet red and green plumage. The same tones of green are in the furnishing. This soft green has been chosen for rugs and hangings, and the same color covers the mahogany chairs and long davenports. White window-seats disguise the presence of the radiators, and these, too, are covered with dull-green velours. The presence of two carved chairs done in old rose, on either side of a doorway, blends with the plumage of many of the wall birds, and furnishes



Chinese willow furniture stained green and decorated with a geranium pink fabric is used on the porch

just enough of a contrast to break the sameness of the furnishing of the great room. The hall might well be termed a room, for, owing to its arrangement, it can readily be used for living-room or music room.

In widening the hall there arose the necessity for supporting-beams, which required the presence of pillars. These in a manner divide the narrow cross hall that runs at the back, from the larger front one, giving to the latter a more roomlike seclusion. Before the latest additions were made, a hall of possibly one-fourth the present width ran the length of the house, with an open fireplace in the back. This fireplace was untouched in the alterations. About its rough sandstone, bookcases are set in a white wooden mantle, all adhering to the simplicity of the

Colonial lines. The stairway, which runs up in the cross hall, was also preserved in its original position for the old plan. The stair is the conventional white, narrow-stepped one, of true Colonial type, with mahogany rail.

To the right of the entrance is the dining-room, a room of the same splendid proportions characteristic of the house. It was built generously, not alone because of its possibilities for beauty, but because here, at last, was room enough to hold the family dinner parties when Christmas Day arrives.

Old blue and yellow are the colors chosen for the dining-room decoration. The rugs carry out the combined tones; the draperies are blue, while the walls are covered with a gold design on a white ground. The woodwork is white and the



The door to the inside garden duplicates the entrance, making a distinctive glimpse through the hall. Here the open arrangement is easily seen

windows, with their real-lace curtains, red brocade draperies and gilt-corniced tops; even the ornaments of least conspicuousness, all awake memories of hoop-skirted grandmothers. This room was the "parlor" of the original house.

At the end of the hall a duplicate of the wide front door opens into a small court. Here stone floors and carved stone

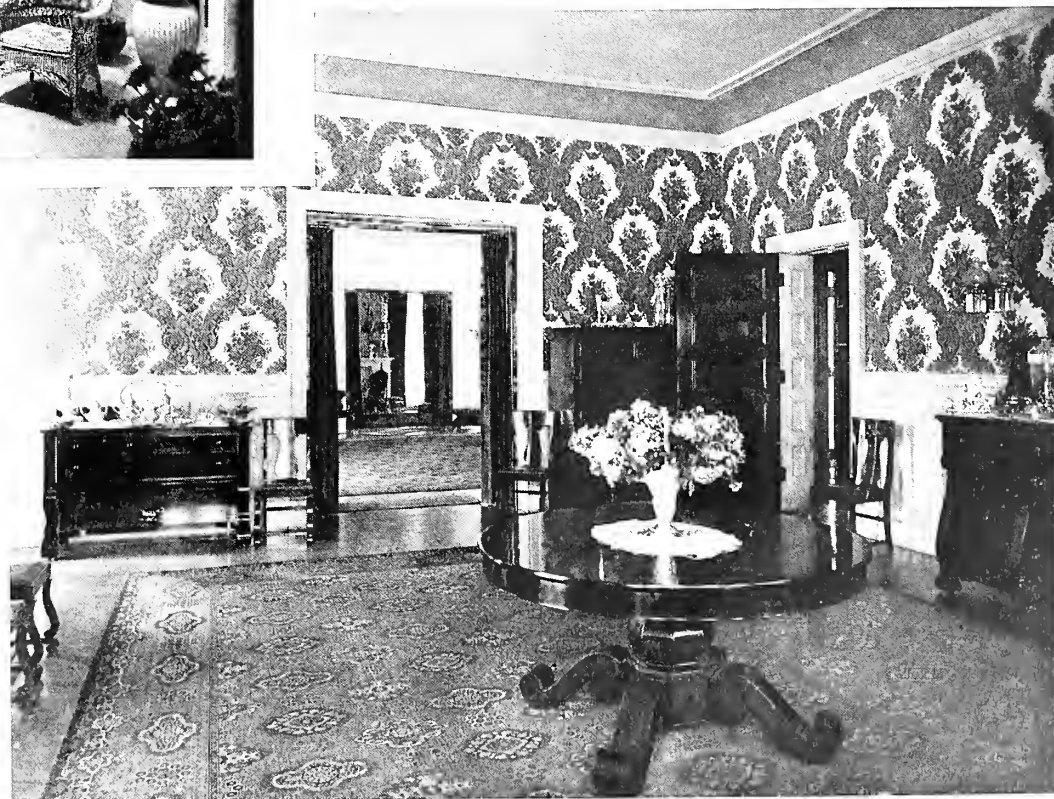
(Continued on page 120)



Stone floors, a carved stone bench and growing plants make the court an attractive inside garden

heavy furniture mahogany. Back of the dining-room, in a continuation of the wing, are placed the pantries and kitchen. The isolation of the kitchen from the main body of the house is essential in this land of open doors.

Opening from the left side of the hall is a drawing-room that is far removed from the fragile white and gold affairs of the typical modern suburban home. The rosewood furniture, with its crimson brocade coverings, bears the quaint design of many years ago. The whole room has the aspect of having been picked up intact and removed from one of Mrs. Mary J. Holmes' story-book houses of the before-the-war grandeur. It is charmingly consistent. The long, gilt-framed mirror, on its white marble pier table, the portraits that cover the walls, the high-ceilinged



Old blue and yellow are the dominant colors of the dining-room, the draperies blue, the rug a combination of those tones, and the paper gold on white. The woodwork is white, the furniture heavy mahogany

Methods and Results of Winter Spraying

WHAT PESTS TO LOOK OUT FOR AND WHAT SPRAYING MIXTURES TO APPLY—THE NECESSARY MACHINES—THEIR CARE—COMMUNITY SPRAYING—FORMULAS FOR COMPOUNDS

GRACE TABOR

THERE are things other than the plants we cultivate that are perennial in our gardens—the pests. And our warfare against them is about the one thing that is truly perpetual. Flowers come and go, the seasons bring their special labors, and winter finally brings rest—to everything save the man with the spray-pump. He must never rest; at least he must never rest with more than one eye closed at a time, although there is a brief interval during the blizzard season, when a truce is sometimes declared.

The reasons for this eternal vigilance lie in the varied habits of the enemy—an allied enemy composed of many races and tribes, each ravaging and pillaging according to its own peculiar ideas; each living and feeding and multiplying, hibernating and dying, according to some particularly cunning scheme that insures its success in all these undertakings.

A secondary reason is the depletion of bird life, unquestionably; but that is a phase of the gardener's troubles that must have consideration quite by itself, and is not a part of the subject we are here considering. In connection with insects, however, and their appalling increase, thought should always be directed to the diminishing number of birds and the fact that Nature's balance is thus destroyed. Conserve the birds and preserve the crops—that is the wise gardener's slogan.

With the arrival of the first day of February hostilities are resumed. Some gardeners assume the aggressive sooner; no one should ever wait until later. In those gracious climes where vegetation starts earlier into growth than it does in the latitude of New York city, proportionately earlier activity is desirable; for the first spraying of the year must be done while the plants treated to it are dormant—unquestionably dormant, with not a suspicion of life about them. The dose of lime-sulphur that they receive at this first treatment would be quite as disastrous to them as it is to their assailants, if they were not fast asleep and unconscious of it.

The one insect which is the star of this performance is the San José scale—"the most dreaded of orchard pests"—and perhaps the most general nowadays. Time was when we knew him not in this land; but in the forty-five years since he made his first appearance in grounds at San José, California, he has thoroughly "naturalized," until now there is not a corner of the

land that is free from him, or a garden spot left unmolested.

One real service has it rendered mankind, however; this is to center official attention upon insects, to give them the place in men's minds and thought which their horrific depredations entitle them to, in commerce, in farming, and in all the branches of husbandry. From taking them and their destructive assaults as a matter of course, agriculturists have been forced to advance—

or go under completely!—to an intelligent understanding of what they do, how they do it, and how to prevent them from doing it. And as this advance has been gradually made, millions of dollars formerly lost have been saved annually. There are still more millions to be saved; but everyone is working in the right direction at last; and no one longer regards the insect pest as providential chastisement or discipline—thanks very largely, indeed, to just this one immigrant pest—which, by the way, should not be credited to Japan, as it is so often, but to China.

The San José scale belongs to the same class of insects as the well-known and comparatively innocuous oyster-shell scale, or oyster-shell bark louse, frequent on apples. But, instead of being elongated, as are practically all other species of scale known to us, it is almost, if not perfectly, round. Its color is so nearly that of the bark of twigs that it is not always easily discovered unless present in great numbers; and when it is full grown it is about an eighth of an inch in diameter. Its general appearance, when present in mass, is similar to a grayish deposit, roughened a little, suggesting a

dusting of fine ash on the branches. Indeed, trees that are very badly infested might easily be mistaken for trees well coated with lime or ashes.

Around the spot where each scale is affixed the bark is often dyed to a purplish tinge, and the bark beneath them is darkened perceptibly by their presence. The younger, smaller insects are darker in color than their seniors, sometimes so dark as to appear almost black; while those still younger than these—very tender infants, indeed—are yellowish. Both the full-grown and the half-grown will be found at this time of year; and it is against these that the spraying of early February is directed, the lime-sulphur solution destroying them, in spite of their armor, by its caustic action, which eats through it.

It is perfectly possible to make this lime-sulphur solution, if one



Slung over the shoulder and light in weight, the compressed air sprayer is the best for the small place

is so minded; but as some of the biggest orchardists find it not worth while to go to the trouble of preparing it, but prefer to buy it in wholesale quantity from manufacturers, it hardly seems that the average fruit grower or gardener is wise to undertake its concoction. The formula is given, however, with others, for the benefit of those who wish to try it. Follow directions exactly as to quantities, also as to mixing, diluting and applying all of these; the slightest deviation may mean disaster.

In addition to being the best means of combating the scale in the plants' dormant stage this insecticide is also a fungicide of the highest value. Its use holds in check peach-leaf curl, apple scab, and such fungous torments; also the blister mite on pears, which causes black spots on the leaves and makes them fall off, thus checking the trees' growth. This February spraying must include everything on the place, if scale is found on anything. Once let this insect get the upper hand and it is almost impossible to control it. Do not give it a chance to get the advantage, but spray all fruit trees and bushes, all shade trees and all shrubs, letting nothing escape without its portion. It

weakens whatever it attacks; and from one infested bush or tree the creatures spread amazingly to all the rest, being carried when newly hatched on the feet of birds or on the backs of other insects; those that are winged, and therefore efficient carriers.

Late in March, or at the beginning of April, when the young leaves are just beginning to put forth, the young new brood of scales are also beginning to live and move and have their independent being. This is the time for a second spraying: not with lime-sulphur now, by any means, but with the milder kerosene-soap emulsion, which will not injure the young growth. Again, everything should be given a thorough coating, and every part of each tree or shrub must be reached, as a single insect overlooked, and so escaping, means almost untold thousands of its descendants by

midsummer, the rate of multiplication being very rapid indeed.

It is usually considered discreet to use a weaker solution of the emulsion upon shade trees and shrubbery and all fruits save the apple and pear.

On a large place where there are orchards as well as large shade and ornamental trees

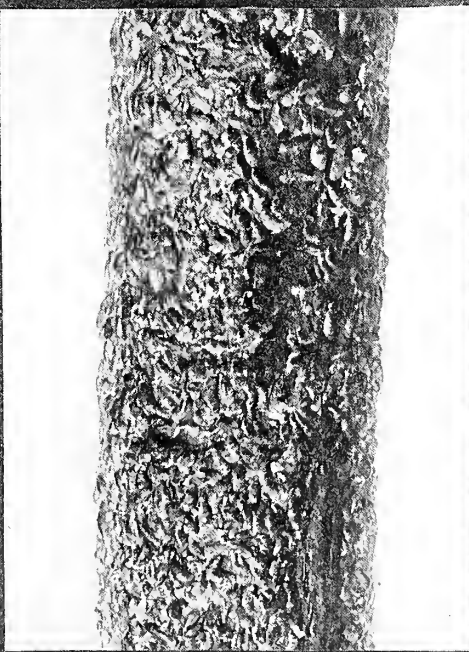


Courtesy of The E. C. Brown Co.

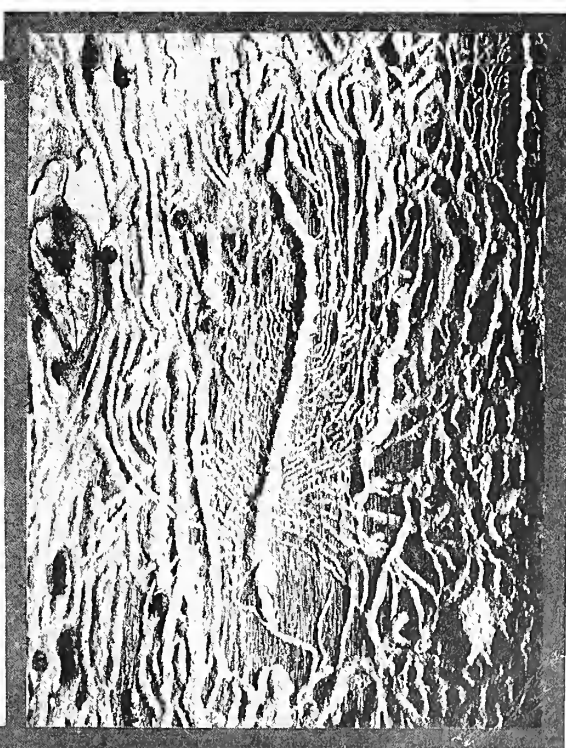
There is no reason why a number of garden lovers in a community should not contribute toward the purchase of one large machine. It would eliminate labor and ultimate expense



Close scrutiny is required to detect the San José Scale, the growth of which is rapid and destructive, and should be halted at once



The Oyster Shell Scale is longer than the San José and thickly encrusts the bark. Spraying now should exterminate it



The Shot Hole Borer can be detected by the tiny round holes in the bark, a decrepit tree being its favorite breeding place

to be treated, it is the truest economy in the end, as well as the only really efficient means of handling the matter, to supply oneself with a gasoline-power outfit. The initial cost will be saved in a comparatively short time by the saving in labor it insures; and it is, moreover, the one means of having even pressure and, as a consequence, even spraying. Hand-power apparatus is effective and satisfactory if worked properly; and where time is no object, it is not, of course, more expensive to operate. But the rapid and perfect work of the gasoline-driven engine makes it an excellent investment. Moreover, if it seems a good deal for one to undertake, community ownership of such an outfit is perfectly feasible—and spraying is essentially a community necessity.

Next to this there is the barrel pump, suitable for use on fairly large places, the barrel holding usually 50 gallons. This may be hauled about on a sled or set into a low truck and wheeled. A tub-like tank already mounted on wheels is also offered, and where there is less to be done, will prove very satisfactory. This holds half as much as the ordinary barrel, and is equipped with a strong pump.

The size of tank most appropriate for a given number of trees is readily estimated when an average of 3 to 7 gallons a tree is taken as a basis. A small fruit tree will require about the former quantity, an old apple tree the latter, under normal weather conditions. Spraying should not be done on a windy day if it is possible to avoid such:

but when it is necessary to spray and the wind blows, it must be done. Proceed, then, with the wind always, letting this carry the mist of the spray towards the trees. It is possible to accomplish a very good piece of work, even in quite a wind, by gauging the distance carefully and holding the hose nozzle sufficiently away from the tree to bring the mist around it. Have the nozzle set at right angles to the pipe, for greater convenience in the work.

For myself, I could not get along without a small compressed-air sprayer, and even where there is a large apparatus for trees and shrubs, this is invaluable for the smaller plants. It is quite equal to trees, however; and if every other kind were to be taken away, this one, I feel, could not be dispensed with. One can work it very comfortably alone, with both hands free, which is not possible with any other kind of small contrivance, for everything else must be pumped continually. This is pumped up, then used for from six to ten minutes, the spray being forced by compressed air.

In selecting any kind of apparatus, bear in mind that the use of Bordeaux mixture demands copper receptacles. Galvanized iron, while resistant to other sprays, will be eaten by the copper in

Bordeaux. Therefore, choose copper, even though its cost is a little more. For nozzle, choose the Vermorel. It clogs occasionally, but it throws a fine and beautiful mist, and is easily cleaned. The Bordeaux nozzle is a good investment also, and should be in the outfit for lime-sulphur use, as it cleans even more easily, and is not so apt to clog. It does not throw as fine a mist, however, and it throws it in a fan-shape, instead of a cone; therefore its action is not quite equal to the Vermorel, which emits actually a cloud of mist that settles gently over and around the tree or shrub to which it is being applied.

Avoid any of the cheap substitutes for these standard kinds; spraying with a nozzle that does not do its work properly is almost as bad as no spraying at all. Avoid also the waste of money that an investment in small "atomizer" forms of spraying apparatus amounts to. These are only fit for indoor use—in-

doors, of course, they have their place, and are perfectly practicable—and efforts to use them outside where spraying must be conducted on a fairly generous scale, even though the garden is not large, are foredoomed to failure.

Whitewash may be applied, and even paint, with any of the good barrel or tank spray pumps; and still other nozzles for special purposes cost but a trifle, and are advisable, as they save the higher-priced Vermorel and Bordeaux. Always clean apparatus thoroughly after using; and dry out the separate parts carefully



With the larger machines come lengths of hose that permit several men working at once. The purchase of such a machine should be seriously considered by the garden club in your town

ly—in the sunlight if possible. This keeps them free from stickiness, which otherwise does sometimes cause inconvenience.

Mound the earth up about trees for this lime-sulphur spraying of February; then draw it away as soon as the work is done. This is to protect the tree at its crown and the roots below, from the fluid that might otherwise penetrate down to them and do them injury. Do this also when spraying with kerosene-soap emulsion; and never use the latter stronger than the spraying table directs.

The two compounds necessary for winter spraying should be mixed according to the following formulas:

Lime-Sulphur Wash.—3 lbs. unslaked lime, 2 lbs. flowers of sulphur, $1\frac{1}{2}$ lbs. salt, 3 gallons water. Slake the lime in a small quantity of the water. Mix the sulphur into a stiff paste and add at once to the slaking lime. Add the salt to the remainder of the water; then add the mixture of lime and sulphur, and boil all together in an iron vessel for two hours. Dilute after boiling until the total quantity of the liquid is 6 gallons. Apply at once, straining it into the spray tank through an iron screen strainer. Agitate while applying, so that it shall not settle.

(Continued on page 124)

Southern California Gardens



A Pasadena home, showing the broad sweep of lawns fringed with giant, Canary Island palms

FLOWERS FOR RICH AND POOR ALIKE—THE EXTRAORDINARY GROWTHS
IN A SHORT SEASON—WHAT THE CLIMATE REALLY IS AND DOES

CHARLES FREDERICK HOLDER

Author of "Life in the Open"

IN going through Southern California one cannot but be impressed by the novelty and beauty of the gardens which surround the homes of rich and poor alike. Indeed, so responsive is the land that it is difficult to find plants in the gardens of the rich which are not duplicated in the humble cottages of the working man, many a poorly constructed shack being glorified by roses or other flowers covering its crudities from sight and making it a bower of loveliness.

Another striking feature is the extraordinary growth attained there and the rapidity with which plants grow. To Californians who go East the fields of summer wild flowers there are extremely grateful, though it is well to remember that the prototype of the Eastern summer is the California winter, when the land runs riot with verdure and bloom. I remember well my delight at seeing a field of golden rod near Boston after many years in California, and the common clover, a flower which as a boy I pulled to secure the sweets in each crimson-hued petal. The field of golden rod near Arlington was perhaps two feet high, possibly a little higher. Last year golden rod was planted in a garden near my house, and this year I have seen it eleven feet tall. Everything seems to grow tall and big here, hence it is possible



A February sweet pea hedge, two hundred feet long and in some places eleven feet high

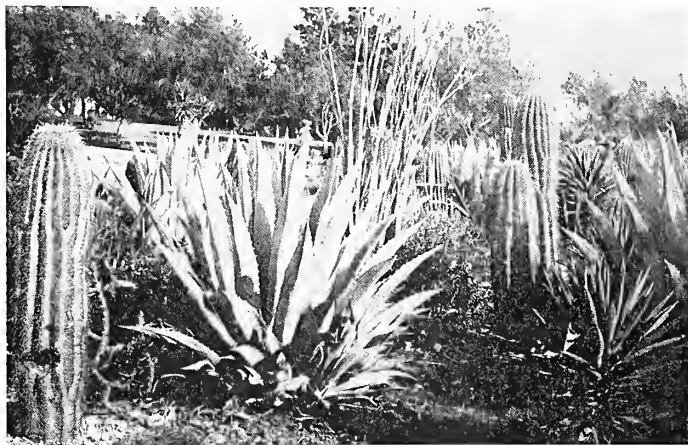
to take a spot covered with unsightly weeds, burrowed with owl and gopher holes, and, by the application of water, produce in two or three years a place which the average Eastern gardener would pronounce the growth of a decade or two.

Probably no country in the world makes a more lavish display of gardens than do Los Angeles, Pasadena, Santa Barbara and other Southern California towns in the winter. The latitude is similar to that of the Riviera, but lacks the cold and piercing winds which sweep over the Maritime Alps with blighting effect; also the extreme hot simoons which come occasionally from the Desert of Sahara.

The gardens of Southern California have few, if any, menacing dangers. As an illustration, the heliotrope growing in front of my house, beneath the eaves, has not been frostbitten in eight years. The result of these conditions is shown in the wealth of flowers all through the winter.

A feature particularly noticeable in this section is the open garden, in contrast, as an example, to the gardens of England. The people of Southern California seem disposed to share their good things with their less fortunate neighbors, and often the most valuable and pretentious places are open to the street without sign or suggestion of a fence. This feature is well illustrated in the residence of F. T.

Holder, of Pasadena, and the Burrage home in Redlands. The Pasadena place stands on two streets, the front of three hundred feet being on a broad avenue, a perfect lawn extending its entire length and back over one hundred feet, where is the garden, a mass of bloom, forming a splendid frame for the picture. The only trees on the lawn are giant Canary Island palms, in front of the house, and a few trees near the garden. From the house nearly all the winter-bearing flowers in Southern California are seen. At times the display of stocks is marvelous, forming a charming background for the lawn. This place is a striking example of the value of artistic setting. The house is not pretentious, but is an excellent type of the Mission style. To the south



In the old days of frontier life the cacti were planted as a hedge to keep out wild beasts that preyed on the stock

extends a patio, which is now covered with the great Bermuda bougainvillea, which forms an artistic mass of color against the delicate salmon tint of the stucco.

One cannot but notice the entrances to some of the suburban places: masses of Lawson pinks or carnations backed

winter nights are cool, the temperature often being as low as 40° or 50°, with occasional frosts; the tropical verdure is therefore very deceptive. The Southern California winter is a revel of flowers, but it is cool and bracing, with no suspicion of the tropics, nor is the so-called rainy season a "season," as the entire annual rainfall of Southern California is just half that of New York. So there are few ponds, bogs or swamps except along the ocean, and no ma-

various deceptions. The average reader who has never crossed the divide or visited California might very naturally arrive at the conclusion that, as palms, bananas and similar trees grow in Cuba and other tropical countries, Southern California, consequently, is in the Tropics. Every winter certain tourists arrive in Los Angeles equipped with wardrobes—white flannels and muslins—adapted for a tropical season, and such people are amazed to find Southern Californians dressed as they would in winter in the East, minus furs. In fact, the vegetation is tropical, but the



The pepper tree, showing its foliage akin to that of the Eastern willow

against a hedge of callas, and behind them fan palms on one side and Canariensis on the other, winding through the beautiful grounds.

In Los Angeles are seen some notable garden entrances where the artistic landscape gardener has produced a sumptuous effect with palms, peppers and bananas, which lend themselves so readily to decoration.

A singular feature of this country is its



Gardening is so simple in Southern California that the children take delight in their own little patches. Each small member of the family contributes to the garden's loveliness, be it with flower or vegetable



A rose-embowered path. Behind is a glimpse of a Norfolk Island pine

laria or mosquitoes.

A study of the trees alone of the gardens in Southern California would prove an interesting pastime, so infinite is the variety.

The pepper tree deserves an article by itself, as in beauty of form and leaf it is chief among the Southern California trees. It more nearly approximates the Eastern willow than any other tree, as in its natural growth the branches fall to



A familiar sight at Redlands, an estate from a distance resembling some old mission, the towers especially being like those at Santa Barbara. Surrounded by an orange grove that reaches out in every direction, this house has a striking setting. Its view is no less lovely, the splendid peaks of the Sierra Madre being always in sight

the ground, forming a complete canopy about itself. On the streets it is rarely allowed to do so, hence is shorn of its greatest beauty. Marengo avenue, Pasadena, is famed the country over, as here the peppers meet and form an elm-like arch the entire length of the avenue. In winter the trees are filled with brilliant berries, which form a pleasing contrast in the sunlight, against the vivid green; the green we often see in the genre pictures of the French artists. Besides the pepper, we see the black wattle of Australia—a tall, shapely tree; the common live oak of the country is very decorative. The Monterey, sugar and other pines are common, and, with various firs growing side by side with the umbrella tree, the cork, bread fruit, or alligator pear, or big Abyssinian banana. The famous century plant is sometimes used as a hedge plant, and blooms here every seventeen years, throwing up a remarkable stalk which is very ornamental.

Cacti of various kinds are also used, and about the old Mission grounds of San Gabriel was formerly a cactus fence over a mile

in extent. It was ten feet high, and in the old days was intended as a protection from Indians, as well as other invaders, such as coyotes, mountain lions and various other animals which preyed upon live-stock.

Such gardens and their possibilities of outdoor life have stamped a peculiar individuality upon the country. They have attracted an entirely different class from that which generally flocks to a new country.

Thirty years ago the entire region was a series of great principalities or ranches. It was the day of an old and charming régime. To-day the country is on the crest of a tidal wave of advancement. There are some who regret the old days, who miss the primitive and unconventional life, but most of the Californians accept the evolution of the region with confidence and take pride in the remarkable city of Los Angeles and its suburban towns from Pasadena to the sea, thirty miles away, a region that for beauty and climate doubtless has no peer in any land.



Nature being generous, the entrance to a California garden is generally guarded by palms that form a natural gateway where walls and iron structure seem out of place



If the gardens are enclosed, the wall is usually low—a democratic characteristic of the Californians—and those that are without can always see the loveliness within



TO one conversant with the admirable qualities of the electric automobile it seems strange that these modern passenger vehicles are not more extensively used in the country. Perhaps the principal reason is the common notion that the electric, being especially adapted to city use, is, therefore, not suited to the country.

Nothing is more erroneous. The very qualities which make the electric automobile suitable for city use make it even more desirable for country service. Foremost among these qualities are reliability, economy of operation and simplicity of control.

Reliability in an automobile should be of greater importance in the country than in the city, where garages and repair shops are near at hand, as well as the convenient street car and taxicab, so that a car out of commission need not seriously interfere with one's plans. Because no satisfactory substitute is available in the country and repairs are not readily obtained it is highly desirable that the automobile for country use be as reliable as possible.

The economical operation of an automobile is certainly just as much of a desideratum in the country as in the city, and simplicity of control is of even greater importance. As a rule, the services of an expert chauffeur are not available in the country. One either drives himself or else expects the man "about the place" to drive the car and to care for it. Herein is another advantage for the electric, for it is not only simpler to drive than the gasoline car, but requires a minimum of skilled attention to keep it in good running condition.

Since we have introduced a comparison between the electric and the gasoline car, we may properly, in equine parlance, refer to the former as the "ladies' horse" of the automobile world. It is a vehicle which the ladies of the house can readily drive without masculine attendance and without any fear of soiling either dainty hands or gowns. The customary types of electric cars afford the protection of enclosed bodies, a feature which seems



(Courtesy New York Edison Co.)

With no engine to freeze in winter, the electric car can readily be driven through the ordinary storm. Its ease of operation in such seasons will be a deciding factor for the woman in the country

The Electric Automobile in the Country

REVEALING SOME OF THE LITTLE KNOWN POSSIBILITIES OF THE ELECTRIC CAR—THE LOW COST OF MAINTENANCE—THE SAFE CAR FOR WOMEN AND CHILDREN

JOHN R. EUSTIS

and ending at the Panama-Pacific International Exposition at San Francisco. An investigation has disclosed the fact that there are a sufficient number of charging stations along the route of the proposed Lincoln Highway, situated at the proper intervals, to make this trans-continental tour entirely possible.

It is not likely, however, that the electric automobile at the present stage of its development will be generally used for long-distance touring. This is a field in which the most ardent advocate of the electric is willing to acknowledge the superiority of the gasoline car. The above facts are noted for the purpose of showing that the electric can readily be used for short runs and

especially designed for the feminine driver and passenger.

The electric car has its disadvantages: at least they are so termed by many people. One is its limited radius; that is, the electric can only run so far without having to have its battery recharged. Another is the limited speed of the electric automobile.

Improvements in recent years in the design and construction of the batteries used to furnish the power for operating electric automobiles have increased the mileage obtainable on a single charge of the battery to a point where runs of from seventy-five to one hundred miles are frequent. Distances of one hundred and fifty or more miles have been made in official test runs, but these have been made under somewhat different conditions than those which prevail in ordinary service.

With the increased mileage radius of the modern electric automobile and the large number of garages and other places scattered about the country districts where facilities are available for recharging batteries, it is now possible to use these vehicles for touring. During the past year an electric was used for a trip from Chicago to Philadelphia, and several runs between New York and Boston and between New York and Philadelphia, Baltimore and Washington were recorded. A trans-continental tour for electric vehicles has even been planned for the coming season, starting from New York

tours. After a run of about fifty miles in the morning, the battery can be "boosted" while its driver and passengers are at luncheon, and an equal distance covered in the afternoon without taxing the battery. Over night the battery can be given a full charge, and this performance repeated, day after day, *ad lib*.

In the matter of speed, the electric automobile normally has a range of from zero to about twenty-two miles an hour. For those who delight in tearing along the country highways at forty to sixty miles an hour this speed limitation of the electric is a condemning feature. For the average person, however, a speed of twenty-two miles an hour is sufficient, and they find in the quiet, gliding motion of the electric car a sensation which recompenses them for the absence of high speed. It is entirely possible, however, to get higher speeds out of an electric. Speed is simply a matter of gearing, but is only secured at a sacrifice of mileage radius, and for this reason is not desirable. On one of the trips made between New York and Boston last year by an electric, the average speed for the entire run was 21.3 miles an hour, and on another it was 20 miles an hour.

In order to determine the cost of operating and maintaining electric automobiles the Electric Vehicle Association of America conducted a nation-wide canvass of owners during the past year. In considering the results obtained, the prospective owner of an electric car in the country should remember the fact that most of the vehicles on which figures were computed were used and garaged in cities and towns, where the cost of housing and charging are usually higher than in the country. This is particularly the case where the country user not only garages his or her own car, but also has a private charging plant. Small private charging plants cost but little money and require little or no skill or attention to operate. They require only the making of the connection, as the charging is automatically controlled, and automatically shut off when the battery is completely charged.

In the canvass referred to a set of questions was submitted to a large list of electric automobile owners in twenty-nine different States. The first question was: "What has been your average monthly bill for current consumed?" The replies were divided into two classes—one for cars kept in private garages and the other for those kept in public garages. In the first class answers received from Eastern States showed an average cost of \$5.34 per month for cars kept in private garages. From the Middle Western States the answers showed an average cost of \$5.61 per month; from the Southern States the replies showed the average to be \$5.75 per month; from the Southwestern States the monthly average was \$6.35; in the Northwestern States the average cost indicated by the answers was \$6.00 per month; the answers from the Pacific Coast showed an av-

erage of \$5.90. From the entire United States the replies showed an average cost for current consumed of \$5.73 per month. The cost of storage and service, including washing, polishing and current consumed, for cars kept in public garages, varied from \$15.00 to \$35.00 per month, the average being \$23.50.

The second question asked owners of electric cars was: "What is your best approximate of the average monthly distance traveled?" The answers to this question varied widely; only twenty-five owners reported a monthly average of over 500 miles, and the highest was 900 miles. Answers were received from owners in Eastern States showing an average of 315 miles per month; from the Middle West, showing an average of 290 miles per month; from the Southwest, showing an average of 278 miles per month; from the Northwestern States, showing an average of 257 miles per month; and from the Pacific Coast, showing an average of 215 miles per month. For the entire United States the monthly average, as shown from the answers to this question, was 286 miles.

The answers to the third question, which inquired as to the life of the batteries, were remarkably uniform, and showed that the manufacturers' guarantees were exceeded. On the basis of the use cited above, the average life of the batteries was two and a quarter years.

The fourth question was: "What period of service has your car had, and what has been your tire expense?" Owners in the Eastern States with thirty-seven months' experience reported an average monthly tire expense of \$3.08, and seven owners, with an average of twenty-two months' service, stated that they had had no tire expense. In the Middle Western States, owners with thirty-six months' average experience reported monthly tire renewal costs of \$4.81; owners with fifteen months of service reported no tire expense. In the Southern States, owners with an average of twenty-five months' experience reported \$5.16 per month for tire renewals, and others averaging seven months of electric-car service reported no tire expense. Owners with twenty-seven months' experience in the Southwestern States reported \$5.66 monthly expense for tire renewals, and those with an

average of seventeen months, no expense. In the Northwestern States owners with an average of forty-eight months' service reported \$3.74 average monthly cost for tires, while those with an average of eighteen months had no tire expense. Owners on the Pacific Coast with twenty-five months' experience reported no tire expense. The general average for the entire United States, for tire renewal cost, was \$2.78 per month.

Taking these monthly averages of \$5.73 for current, \$2.78 for tire renewals, and 286 miles as the distance traveled, we have an average
(Continued on page 121)



(C) Underwood & Underwood, N. Y.

It is undoubtedly the most handy conveyance for the shopping trip, for visiting neighbors, meeting trains and for short rides about the country. No expert attention is needed, any one can run it. A practical neighborhood car





A well-ordered garden is not merely a picture of gay colors but an atmosphere as well, the result always of combining practical ideas with the esthetic

Efficiency in The Flower Garden

APPLYING PRACTICAL LAWS TO FLOWER GROWING—THE CHOICE OF GARDEN SITES—
SOILS AND DRAINAGE

F. F. ROCKWELL

Editor's Note.—Have you used the same up-to-date methods in managing your flower gardens as you have in growing your vegetables and fruits? Do you realize that the fact that flowers are grown for beauty rather than for utility does not save them from coming under the same practical laws of plant-nutrition and growth? This is the first of a series of articles on efficiency in the flower garden which will pay particular attention to the practical, essential things which are so often overlooked. If you will take the trouble to follow them, we think your flower gardens will show a marked improvement.

ONE does not usually think of flowers and flower gardens in terms of efficiency. Perhaps we even feel an instinctive hostility to such an association of ideas. But is there, after all, any incongruity about it? The aim and purpose of a garden, it is true, is the creation of a spirit of beauty—a product too intangible to be measured by the stop-watch and scales of the efficiency engineer. But the materials upon which the garden artist must draw to create his picture, whether he be the greenest of amateurs or the skilled professional, are plants, subject to laws of growth which we have fairly well ascertained, and which apply no less surely to the bed of dew-bejeweled roses than to the hum-

blest row of beans. And there are, furthermore, some general principles in the use of these materials which are not mere questions of taste.

It is, however, next to useless to speak of efficiency in flower gardening before having clearly fixed in mind just what a garden is. It is more than the flowers and shrubs and bulbs and beds and borders which go to make it up. These things form its physical being, it is true. But a path may be more important than a costly planting of roses; a bit of graceful columbine against a gary wall may express more than hundreds of dollars' worth of rare plants carefully watched and tended. No real garden can be measured by its size or the kinds or numbers of things in it. It

must have a spirit, a soul, that is the expression of someone's joy in creating a thing of beauty; that is its sole *raison d'être*.

"A row of sunflowers by a paling,
A wicket left upon the latch,
A summer-house with woodbine trailing,
And ivy creeping o'er the thatch,"

may be all that are required to create the desired effect—and in such a case "efficiency" in gardening is the strength of mind to be able to resist the temptation to put in something more.

In its truest sense, the garden is an atmosphere, rather than a picture merely. Gay colors, sweet odors, graceful forms, which appeal to the physical senses, do not in themselves make a garden; if they did, the ideal garden would be the commercial nursery, with its acres of rioting colors. They must be so combined as to harmonize with each other and with the spirit of the place. Your garden may be a garden of rest or of cheerfulness; one of sweet sadness, or even of reverence.

The first thing we look for in a garden is that it should express the gardener. If it fails to do that it is not a garden, but a collection of plants. For that reason many elaborate pieces of landscape architecture which are supposed to be wonderfully beautiful gardens are not gardens at all. You cannot have a garden by proxy, you have to labor over it; you have got to work in it; you have got to take it to heart; otherwise an intangible thread snaps somewhere, and the thing you thought to accomplish by hiring a substitute you find cannot be done. Not only does the mercenary garden fail to satisfy its owner, but even the stranger within its gates can detect therein, in spite of the most beautifully kept plots and carefully trimmed edges, an air of hardness, coldness and aloofness that has a petrifying effect discernible to his finer sense of appreciation.

The real desire for a good garden, on the other hand, the enjoyment of working in it, and even the means of getting everything one may want for it, are not enough to insure success. You should know what kind of a garden you want; how to plan it so that it will be in good taste and in harmony with the place, as well as satisfying your personal ideal; and, furthermore, how to make it grow.

As to the kind of a garden you may choose, it may be any one of three general types—the informal or naturalistic garden, the picturesque, and the formal. While these are all distinct types, the line of separation between any two of them is not distinct. But, in looking over the garden or gardens on a place, one may usually say pretty definitely to which type they belong. In the majority of cases the informal or naturalistic effect will be the one that can be the most satisfactorily employed; it offers the widest range of possibilities, and the amateur is certainly more likely to get satisfactory results than if he attempts either of

the other types. As an example of picturesque gardening, the Japanese garden stands as an extreme, as do the Italian garden and the sunken garden as examples of formal gardening. The picturesque and the formal gardens are, of course, highly artificial. But as a corollary of the old principle that "art is most perfect which conceals itself," so the picturesque or the formal garden that fails to look natural is a sorry affair indeed. Each, however, has its uses, and if your place or your house seems to make the use of one or the other desirable, by all means endeavor to make use of it.

Do not allow the fact that you may make mistakes for the first season or two to discourage you. Overcoming such difficulties is, after all, part of the pleasure and the purpose of gardens. But, nevertheless, you should take every possible precaution against making mistakes; there will be enough of them left to overcome, and the principal insurance against making mistakes is to make a definite plan before you begin the laying out of the various beds

and borders or planting of flowering shrubs. This plan should show the whole place and should be drawn to scale. Jotted down upon it should be the walks and beds and borders and rows, which may already be there, and any new ones you may wish to add, or any changes you intend to make. You do not, of course, sacrifice the privilege of changing your mind—but the point is that it is very much easier to change it on paper than on the lawn. And then the things which you actually do, in the way of making out flower beds or setting out trees and shrubs can be much more conveniently made part of the general plan of development, so that you will not be so likely to find yourself tearing out something you did



Most of the gardening just now is done indoors and on paper—drawing the plans, calculating for the right amount of seeds, and arranging for the drainage

last year to carry out what you want to do this year.

The various classes of flowers differ from each other in methods of culture much more than do the vegetables. It is, for that reason, necessary to consider them in groups instead of giving, as we can for vegetables, general principles which will apply to nearly everything. But there are a few elemental principles with which the would-be gardener must make himself familiar. The fairest rose, the frailest poppy, the most delicately scented sprig of mignonette or heliotrope derives its nourishment from the soil in much the same way as a pumpkin or a cabbage, and can reach its fullest development only with the most careful attention of the gardener to such prosaic matters as proper under-drainage, fertilizing, manuring and cultivating. The same problems in regard to plant nutrition, available and unavailable plant-foods, properly prepared soil, protection from insects and diseases, irrigation and numerous other matters require study just as much in connection with the flower garden as with the vegetable garden. The commercial grower gives them this attention, but the amateur for the most part seems to think that his posies must have a different way of growing from his peas.

(Continued on page 124)



The exterior presents many interesting points; with the huge stone chimneys, turret, rows of casement windows and sturdy, buttressed, enclosed porch. The lines are rambling and unusual, and the grounds, when well planted, should give the house a distinctive setting

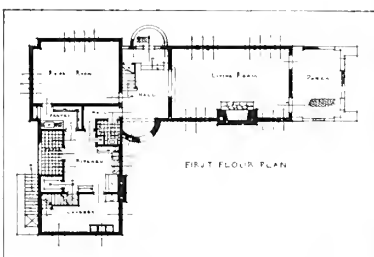


In the living-room the Jacobean furnishings are fitting with the Caen stone mantel and beamed ceiling

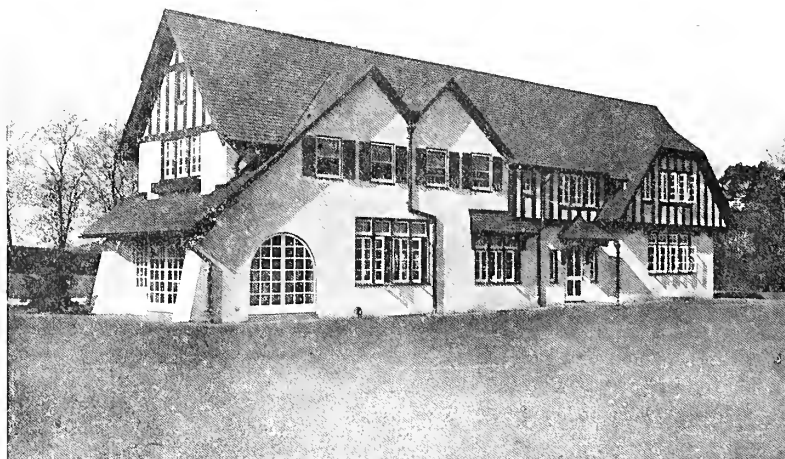


By having furniture consistent to one period, the dining-room has been decorated in good taste; simple and yet sensibly luxurious

A STUCCO HOUSE ALONG ENGLISH LINES AT



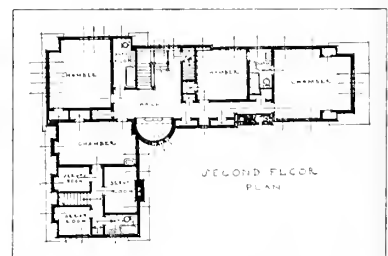
The service department has been set in the ell, well away from the living quarters



That the lines of English cottage architecture can be successfully adapted to an American setting is readily shown by the rear view

GREAT NECK, LONG ISLAND

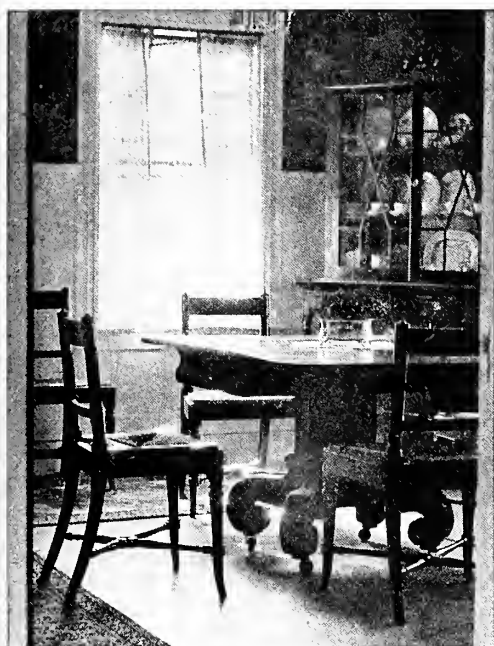
Caretto & Foster, architects



On the second floor the ell serves again to separate the servants' rooms from the other chambers

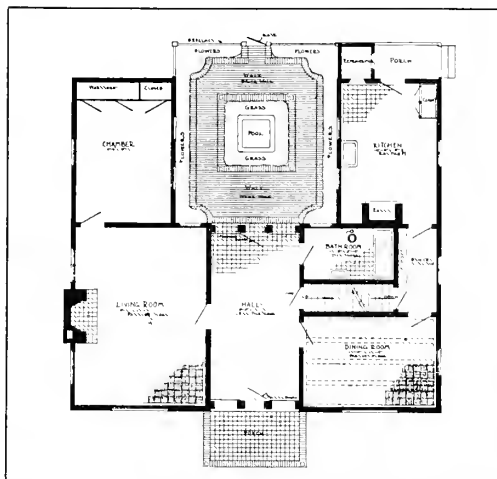


Simplicity and liveableness characterize the house. The rows of windows and the triple-door of the entrance afford plenty of sunlight within and an air of prim hominess without

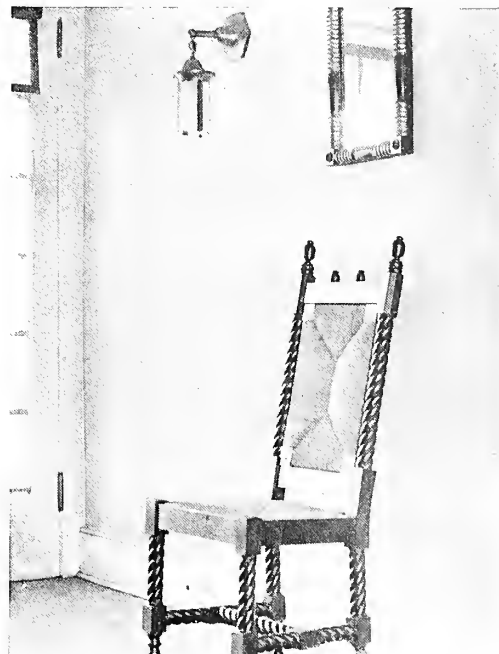


Old heavy mahogany has been used in the dining-room. The floor is parquet

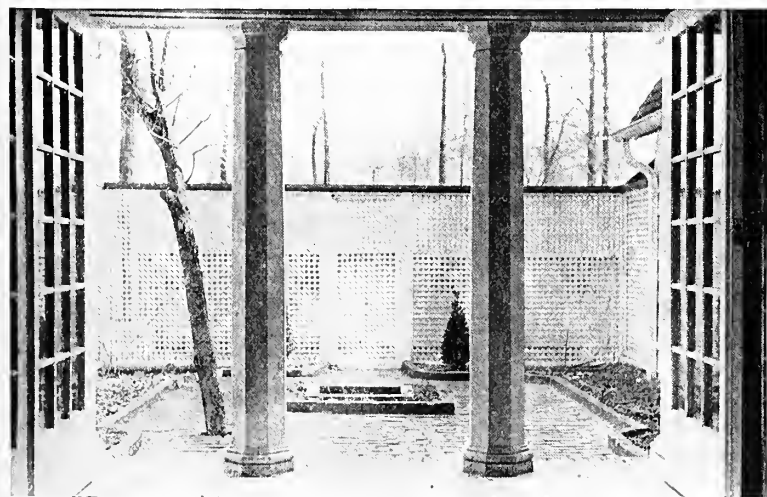
A SHINGLE HOUSE AT ANNADALE, STATEN ISLAND



An inside garden is the pronounced feature of this simple plan



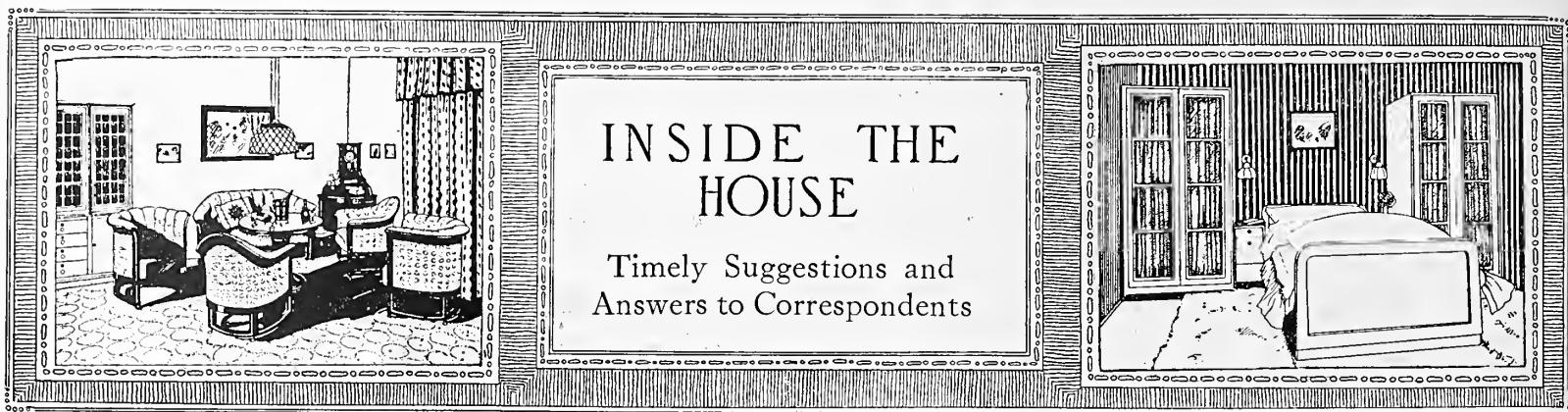
The hall is wide and runs through the house to the patio behind



Enough of a garden to care for between whiles, flower beds and a pool affording an excellent opportunity for formal treatment



High, white wainscot adds to the cheer of the dining-room and makes a fitting background for the mahogany furniture



The editor will gladly answer queries pertaining to individual problems of interior decoration and furnishing. When an immediate reply is desired, a self-addressed stamped envelope should be enclosed. This department will also purchase any of the articles here described for subscribers living at a distance, or will furnish the names of the places where they may be obtained.

Small Decorative Lamp Shades

LAMP shades can be either purely decorative or else distinctly useful, and the problem is to make them both. The shape depends largely upon the capacity in which they are used. Thus, a rather flat, flaring shape always gives a broader shed of light, and in libraries these are the most practical kind to use. Stretched, two-toned silk, with gold guimpe at the top and bottom, and a broad fringe as a finish, gives a handsome effect and also provides a good reading light. Such shades are best when made of dull gold or soft rose color; if of tan they may be interlined with a rose or orange silk, and thus, when lighted, give a warm, rich glow, and unlighted, the color is neutral and unobtrusive. Green and blue shades give a most unbecoming light, and the effect when lighted is a dirty gray. A shade of an orange color will lend an air of piquancy to an otherwise drab room.

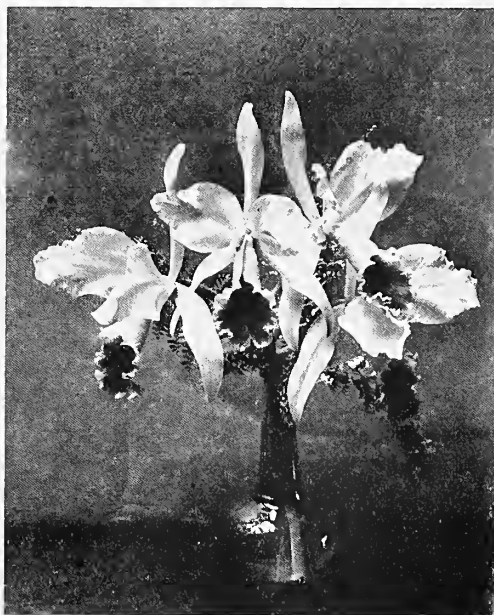
The illustrations used here are of shades where direct light is not relied upon, or in any case a small amount of light, such as one desires for a bedside lamp. These may be very decorative, repeating and emphasizing the color to be brought out in the room.

The group of three is designed to be used in a bedroom where a vari-colored cretonne is employed and the rose tones of the other decorations need emphasizing. The larger shade is for the bedside stand, the smaller pair for the dresser. They are hexagonal and covered with finely shirred rose India silk, which is drawn up to the center of the top, forming a radiating figure. The prong to fit over the electric bulb is dropped an inch and a half so there will be no danger of rotting from over-heat. A pretty, old-rose fringe is used at the bottom, and at the top the fringe itself is cut away, leaving only the heading, which, carefully sewed on to avoid raveling, makes an adequate finish. Dimensions of the larger are seven and a half inches across the bottom and five and three-quarters at the top, and six inches high. The smaller are three and three-quarters at the bottom, three at the top, and three and a quarter high. Wire

frames for these can easily be made, and the shades may or may not be lined. Having the top covered, they give a soft glow all over the room, and one needs only the light downwards.

A rather striking shade is made up on paper; the straight cylinder shape is interesting. The background is ivory white with black figures and bands. Used with a plain, white-painted standard, it is very attractive, although not as durable as a silk shade.

For use with black and gold Chinese decorated standard there is a shade of yellow, lacquered chintz of Chinese design. Orange lacquer has been used, so that when the lamp is lit the colors are



A serviceable vase in which to place orchids is an Italian milk bottle, varieties of which are being shown in the shops

rich and glowing, from a delicate yellow to a deep orange. The frame is oblong, but hexagonal in shape. It is finished with dull-gold guimpe, and has no lining. This same idea of a lacquered chintz shade can be used on a large lamp, each of the six faces framing a Japanese scene.

It is always a problem how to shade side fixtures. The regulation little, round

silk shade is apt to look silly and tawdry on a dignified bracket, especially when it is a double fixture. A suitable and unusual shield may be made of plain, shirred silk edged with gilt or silver galoon to match the finish of the fixture itself. A fascinating shield may be made by using a Renaissance design of cretonne, stretching it tightly over the wire frame, and making it large enough to cover both lights. It should be bent at the sides so as to hide the bulbs. This also can be finished in lacquer, which gives a translucent light and shows up the figures when lit. Used in a blue dining-room, the blue-green of the peacocks in the shield illustrated is really lovely.

The same shield can be used on a branched candlestick of brass on the serving table. It will keep the glare from the eyes of the diners and at the same time give a suitable light at the sideboard. Such shields are distinctly decorative in character.

Lamp shades so often become grimy and dusty, although the materials themselves are in good condition. They can be freshened and be made quite gay and bright again by dipping them in naphtha. Especially is this true of the guimpes and fringes. Brush them well first, and give them a good sunning afterwards.

A shade of Empire shape—not flaring—is excellent when used on a high-floor standard and also on lights not used for reading. They are beautiful if made of damask or rich, figured silk.

Always line a shade with a very light color—almost white, as a darker color will absorb the light. A dead white lining, however, is apt to look crude with a rich color, so it is preferable to use a color delicately toned to the silk used for the outside.

Chintz shades are used for bedrooms and summer places. There is being shown one of oval shape, on either side of which is a medallion figure of gay, old-fashioned flowers. The background is golden. A pert little ruche of pinked sateen edges it top and bottom. Linen and sateen are a good combination to use, and if of the best quality, the sateen does not



For a branched candlestick to set on the sideboard comes this shield. It also would serve on a double wall bracket

fray. This same shape is made up in a violet stripe with little yellow birds—an appropriate shade for a dainty woman's boudoir.

Men's tastes rather lean to wicker and bamboo shades. They are substantial, and can be made very attractive. When bought in the shops the linings are often a hideous red or orange or an unfavorable green. The inside wire frame can easily be taken out, however, and the silk removed. If the wires are wound, do not trouble to remove the covering, but paint them with water color whatever color the

lining is to be. If the bamboo is of a dark color, use a black pongee with brilliant vari-colored flowers, and the effect when lit or unlit is stunning. Also a pretty ecru mandarin silk may be substituted for the commonplace commercial outside silk.

For a reception hall is an unusually attractive shade made of a black chintz or linen, with clear-colored Chinese figures—butterflies, pirouetting birds, dragon flies, even a graceful, green worm. A flat, flaring shape is best adaptable for this use. The chintz can be stretched very tightly, then lacquered, leaving the surface hard and shiny. The edges are finished with a greenish-gold guimpe. On a pure white Chinese vase or a black standard this is unusual, effective and decorative.

A Vase for Orchids

Because of their very short stems, orchids are difficult to display properly. In an ordinary vase much of their exquisite beauty is lost, but it has been discovered that they look remarkably well when placed in the little cream jars which are common in Italy. These little jars are made of clear glass in most delightful shapes, and have long, narrow necks. They are being sold in this country now for use as vases, and cost about thirty-five cents apiece. One orchid or several may be used in them, and, while a bit of fern is a pleasing addition, it is not necessary.

The Care of the Bathroom

Once a week I have my bathroom cleaned with soap powder and a scouring soap. The remainder of the time I care for it myself; for the modern bathroom, with its tiled floor and walls, and its porcelain fittings, requires more attention than any other room in the house.

The ideal cleanser for the bathtub and the bowl is gasoline. This, however, in careless or ignorant hands, is a dangerous fluid. Accordingly, I keep a can of it for my own exclusive use.

Ordinarily, with a generous amount of gasoline and a clean, rough cloth I can make the bathroom fittings shine like new in a very short time. Occasionally, though, from careless handling of medicines, or other causes, unsightly spots will appear on the tub. These spots in many instances are difficult to remove.

When the bathtub happens to be in this condition I cover the spots with scouring soap, place the stopper in the tub, and pour into the tub enough gasoline to cover the stains. I allow the gasoline to remain in the tub for a few minutes; then, with a clean, soft cloth I rub the stains briskly.

I have never known this method to fail. And not only is the gasoline efficacious in removing the stains, but when it is allowed to run out of the tub it proves an excellent medium to carry off grease and lint from the pipes that lead to the sewer.



Striking, black figures on a white, cylindrical background. An effective shade for a corner of the living-room

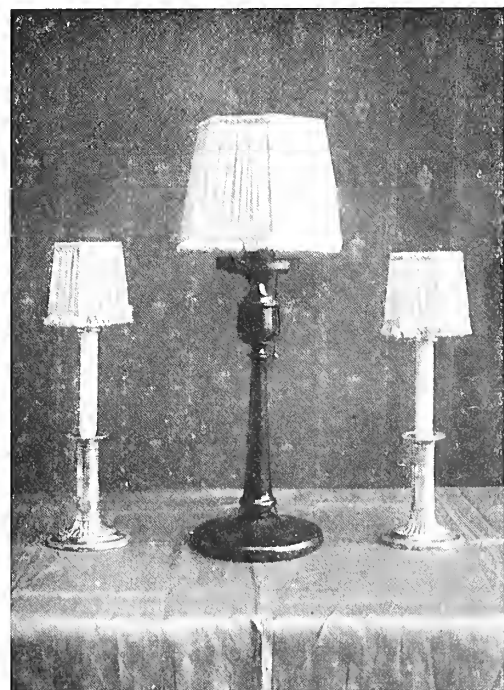
While the bathroom fittings need to be cared for with infinite pains, even more care is required in washing the tiled walls. Careless cleaning frequently loosens a tile, which, once out of its proper place, in many instances necessitates the removal of the entire wall before the loose tile can be replaced.

It is readily seen, then, that it is well for the housewife to keep the bathroom under her own supervision, as a careless servant may do much damage in a short time; and the services of a tile setter are expensive.

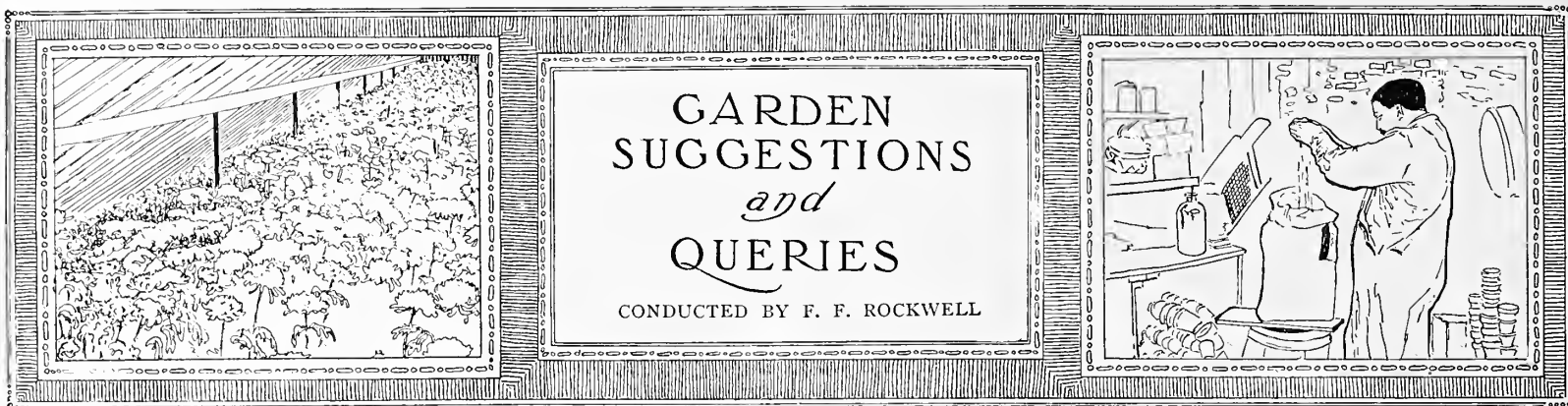
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An unusual shape for a table where not much light is needed—made of a Chinese patterned chintz, heavily lacquered



A bedroom set of pink shirred silk; the smaller candle lights for the dresser, and the larger for a bedside reading-lamp



Canned Garden Food

EVEN though you may have been successful in getting a good supply of manure for the garden, or in arranging for its delivery later when you are ready to have the garden plowed or spaded, you will probably have use for some commercial fertilizer. Now is the time to get it. The amount will depend largely upon how much manure you now have at your disposal. From one to one and a half pounds for every twenty-five square feet will make a generous dressing where little or no manure is used. With a good coating of manure, one-half, or even less, of this amount will be enough to produce good results. This would make for a garden 50 x 100 feet an application of 100 to 200 lbs. of high-grade fertilizer, according to the amount of manure being used with it. The best fertilizer for garden use should contain approximately 4% of nitrogen, 8% of available phosphoric acid, and 10% of potash.

In addition to the general dressing of fertilizer, before planting you should have some other things to put on at the time of planting and to use as top dressing. For this purpose get from 25 to 100 lbs. each of fine ground bone and nitrate of soda and also of tankage or cotton-seed meal. As potash is very scarce this year, it will be difficult to get ready-mixed fertilizers containing a high percentage of potash. Therefore, you should not only carefully save any of your own wood ashes, but purchase them wherever you can at a fair price, provided they have been kept dry. Ashes from hardwood are more valuable than those from soft wood.

The home mixing of fertilizers is being done more and more. At first only large commercial growers, who used many tons of fertilizers annually, took it up. But now the raw materials or ingredients can

be purchased in many localities from local dealers in small amounts, and there is no reason why the home gardener who uses several hundred pounds of fertilizer during the year should not mix up his own fertilizer to meet his own requirements. It is certain that he can get much more for his money by so doing. All the tools that are required for the job are a square-pointed shovel, a screen and a tight floor or large shallow box. You can readily duplicate the formula of any mixed brand you may have been using. But most of the ready-mixed brands are low in nitrogen and potash in proportion to the amount of phosphoric acid they contain. A mixture of—

- 30 lbs. nitrate of soda;
- 40 of muriate or sulphate of potash;
- 50 of high-grade tankage, and
- 70 of 16% acid phosphate

will contain the plant-food elements in about the right proportions.

Spread the several ingredients out in a low, flat heap, the bulkier ones at the bottom, and shovel or hoe them over two or three times until they are thoroughly mixed. Then put them through the sieve, mix them again and remove any lumps: these may be pounded up with the bottom of the spade and added to the rest of the mixture afterwards.

Enough of this general mixture or basic formula should be made to give the garden one good dressing before planting is begun. One of the great advantages of mixing your own fertilizer is that during the course of the summer it is often desirable to use one or more of the different ingredients by itself as a top dressing; nitrate of soda is used for this purpose, as it contains nitrogen, which, in an available form, is capable of quickly stimulating any crop that may fail to show that dark-green color, indicating a lack of nitrogen. An application of nitrate of soda followed by rain or a good watering will frequently show perceptible results in a few hours. A convenient way of handling the mixture is to get a few empty cracker boxes in which the material can be kept until you are ready to use it.

An Early Start for Late Beginners

The gardener who has to contend with the disadvantages of a new place, or who has not for some reason put in a cold frame or a hot bed in the fall, and who,

nevertheless, wants to start plants early for this year's garden, is not at a hopeless disadvantage. A hotbed may be constructed on top of the ground. In order to do this, more manure in proportion to the size of the frame must be used, but this is better than no hotbed at all. A cord of manure, costing three to five dollars, will make a bed for a sash frame holding three regular 3 x 6 sashes. In this amount of space enough things may be started for a substantial family garden. And after you get through with the beds, the manure will be in the right condition for hills of melons, beans, tomatoes, squash, and so forth, or to use for late celery or cabbage. The manure should, of course, be horse manure, fresh enough to heat properly when it is stacked in a compact heap to ferment. A third or so in bulk of short bedding or leaves should be added to it unless it already contains sufficient stable litter. This should be packed thoroughly, trampling down each layer, and kept under cover, and after a few days turned inside out and allowed to heat again. When it is hot through and through, spread it out in a flat heap about 9 feet wide and 18 inches deep and 18 inches longer on either end than the frame which is to be set upon it. This pile is made level in a sheltered position, getting the full sun, but protected from north winds. About 6 inches of soil is put on top of the manure inside of the frame: the outside of it is banked up with manure. For the first few days after it is made, the temperature will be very hot, and even if only frozen dirt is available it will thaw out very quickly with the joint action of the manure and the sun through the glass sash, especially if matting shutters are kept on during cold nights.

There will be plenty to keep one busy in the greenhouse at this time of the year. A new supply of flats, if one has not



Additional warmth can be secured by covering the frames with heavy pads



Over the pads put a wooden cover, and the frame will be well protected

enough already on hand, should be made. The first sowings of cabbage, cauliflower, beets, lettuce and brocoli may be made from the first to the middle of the month. If you intend to grow any onions from transplanted seedlings, they should be planted early this month. As these are not transplanted again, when the other vegetables are, they are planted in a somewhat different way. When they are put in the flats or directly in the hotbed, 2 inches or so of rich compost should be put into the bottom, followed by an inch of fine sifted soil, and on top of this half an inch or so of clean sand, in which the seeds are sown. The seeds should be sown a quarter to half an inch deep in rows 4 inches to 6 inches apart, putting 12 to 15 seeds to the inch, thinning them out if necessary, when they are up, to 8 or 10. During their growth the tops of the plants should be cut back two or three times to make them extra stocky. Among the flowers which may be started now are a number of the annuals and perennials which, if left until later, would not flower until the year after sowing. Among these are African daisy, antirrhinum, asters, balsam canna, chrysanthemums, cosmos, dahlia, heliotrope, hollyhock, kochia, pansies, ricinus, salpiglossis, salvia, verbenas, *Vinca rosea*.

Practically all the seeds to be planted will grow sooner and stronger if given "bottom heat." A convenient way of doing this is to place the flats on the hot water return. Where these are under the benches, however, great care must be taken to remove the flats as soon as the seeds sprout. If left for only a short time in partial shade they are sure to be injured seriously; the little grow up tall and bend towards the light in an almost incredibly short time. Although the seed boxes may be kept dark until the seeds break the surface, from that time on they should be given full light, and the nearer they can be kept to the glass, the better. A mistake the beginner is likely to make is to "monkey around" too much with the watering pot during the early stages of growth. The less the seed boxes are watered the better, provided they are kept from drying out. By far the best way of watering them is to get a galvanized iron pan made at the tinsmith's about 15 x 24" in size and 4" or 5" deep; the flat can be placed in this and the water poured in around them, which they can soak up from the bottom. In this way the foliage and the surface of the soil are kept dry, which is an important factor in warding off that dreaded trouble known as "damping off," and the soil can be easily saturated.

An Illustrated Garden Record

OF course, you keep a garden record? Then, if you own a camera, why not illustrate it? If you had in your garden last year too much of this or too little of that; if you by mischance struck the

wrong seed or seedsman; if you discovered something new by your practice that is worth remembering; if you found flower or vegetable varieties that you wish to repeat or avoid this year, you will realize the value of a garden record.

The volume itself can be an ordinary, twenty-five-cent record book, with pages seven and a half by nine inches, and with a space an inch and a half wide ruled off at the left. This gives ample room for



Plants raised in the house from young cuttings have a tendency to dry out. One way to prevent this is to cover the thumb pot with the cover of a jelly glass, slit to allow the plant to come through. The loam in the pot will remain moist for a long period and will be of great benefit to the plant

notes as detailed and extensive as one has time or fancy for making; the book is thick and cheap, and there is no need of saving space.

At the top of the ruled-off space at the left of the page the year is entered. In that column, set off by its surrounding white space, is the date preceding each item as it is entered. In the same space, in red ink, to make it stand out clearer, are subject headings to make it handier for reference.

The illustrations can be made unique. Taken with an ordinary hand camera, using the portrait attachment, they are fastened in with library paste, and the record is written around them. Thus, combined with the written record, they

constitute a tangible and striking permanent register of garden results. Unfortunately, camera-makers have not yet shown cunning enough to fix it so that colors can be recorded—not to speak of fragrance—and much of the garden's glory is necessarily omitted. But, even without the colors, these pictures add tremendously to the interest of this record of the business and fun of gardening.

The portrait attachment, which every camera owner should have, anyway, does not alter the working of the lens otherwise than in its focusing. It cuts sharply the object on which it is focused, leaving other objects undefined. As the hand camera lacks facilities for visual focusing, it is necessary to adhere strictly to the rules governing its use. For instance, with the scale on the camera adjusted at six feet, the shortest distance of which it is capable, the lens should be—in this case—exactly two feet and eight inches from the object.

Much is added to the clearness of the pictures if a proper background is provided. This should be secured by the use of a screen of some material without gloss, with a slate-gray or other neutral color, placed a few inches or more behind the object. Fair results can be secured without any background whatever, as the landscape or objects behind the subject will be out of focus, anyway; but the blooms stand out more strongly if a background is provided. A practical background can be made by taking a square of cloth from an old brown canvas tent and stretching it upon a frame such as is used to contain a piece of tapestry for a fireplace screen. On one side, to afford a still sharper contrast for lighter blossoms, one can fasten a piece of dead, black material.

With this equipment you can photograph single blossoms, bouquets and foliage, and also take your grounds in whole and in part, and as they look at various seasons.

Watering Cuttings

I HAVE raised many plants in the house from cuttings, but it was not until I happened across the following scheme that I was very successful. I always found that, no matter what I did, the cuttings, when first put into thumb pots, would dry out, in the house. This frequent drying had an effect on the plants that was shown by the slowness of growth and the dropping of leaves and degenerating into such a poor condition that they had to be thrown out. This occurred very often to me, but is not to be wondered at when one realizes the small amount of loam that a thumb-pot holds. I tried one day fitting tin covers over the pots, and the problem was solved. I bought two dozen jelly tumbler covers and slit them and fitted them on the pot. The results are wonderful. Try it and see.



EDITORIAL



IS THE UNITED STATES SELF-CONTAINED?

NOW that war has blocked for many nations their avenues of importation of food stuff, some Americans are developing an unwonted—and perhaps unjustified—appreciation of our singular position among the powers. Outside of Russia, the United States is the only self-contained nation. Were our ports closed, they say, we could continue feeding and clothing our eighty millions as though little or nothing had happened. And, as in Russia to-day, so here, the people of the interior would scarcely know a war was going on. Though this is in a measure true, one often wonders just how much the average man understands the part played in the nation's welfare by the farmer and rural life; how much the city dweller appreciates the farmer's possibilities and potentialities.

The matter was brought vividly to the attention of the public in the recent report of the Secretary of Agriculture. "Relatively speaking," Mr. Houston says, "there has been a neglect of rural life by the nation. This neglect has perhaps not been conscious or willful. We have been so bent on building up great industrial centers, in rivaling nations of the world in manufacturing and commerce, fostering these by every natural and artificial device we could think of, so busy in the race for populous municipal centers, that we have overlooked the very foundations of our industrial existence. It has been assumed that we have a national monopoly in agriculture—that it could take care of itself—and for the most part we have cheerfully left it to do so."

Contrasting with that statement is the following:

"The progress of agriculture reveals itself more particularly in its diversification, in the rise of minor crops to larger proportions, than in the increased production of staple products. For example, dairying in the last generation has become an exceptionally important branch of agricultural economy, the annual production including more than one and a half billion pounds of butter, a half billion pounds of condensed milk, and a third of a billion pounds of cheese, having a value of approximately \$600,000,000. The production of orchard fruits exceeds 216,000,000 bushels a year, with a value of more than \$140,000,000. The value of the annual production of vegetables is in excess of \$400,000,000. The production of hay and forage approximates 100,000,000 tons, with a value in excess of \$800,000,000; the poultry products of the nation have reached a point where their annual value is about one-half that of the cotton crop at normal valuations, and marked increases are noted in the quantity and value of the cereals.

"We know that the wheat crop of 1914, of approximately 892,000,000 bushels, is the greatest ever produced in our history, and that the crop of oats, barley, rye, potatoes, tobacco and hay are unusually large. The cotton crop forecast in October at 15,340,000 bales is the second largest. The apple crop, estimated at 259,000,000 bushels, is the greatest ever harvested. The total production of six leading cereals is estimated to have been 5,000,000,000 bushels, or about 428,000,000 bushels in excess of the crop of 1913. For the country as a whole, the crop yields per acre were 2.3 per cent better than the average for the past ten years. The average yield per acre of all the staple crops was 9.4 per cent greater than 1913, and, except for corn, oats and flax seed, greater than the ten-year average.

WHERE DECREASE COMES

"BUT, after all our efforts, while there is an increased diversification of agriculture, and both a relative and absolute increase in important products, such as wheat, forage crops, fruits, dairy products and poultry, we still note not only a relative, but also an absolute decrease in a number

of our important staple food products, such as corn and meats. In the former in the last fifteen years there has been no substantial advance. In cattle, sheep and hogs there has been an absolute decline—in cattle, from the census year of 1899 to that of 1909, of from 50,000,000 head to 41,000,000; in sheep of from 61,000,000 to 52,000,000; in hogs, of from 63,000,000 to 58,000,000. Since 1909 the tendency has been downward, and yet during the period since 1899 the population has increased over 20,000,000. This situation exists not in a crowded country, but in one which is still in a measure being pioneered; in one which, with 935,000,000 acres of arable land, has only 400,000,000, or 45 per cent, under cultivation, and in one in which the population per square mile does not exceed thirty-one, and ranges from 0.7 persons in Nevada to 508 in Rhode Island.

"Just what the trouble is no one is yet sufficiently informed to say. It can scarcely be that the American farmer has not as much intelligence as the farmer of other nations. It is true that the American farmer does not produce as much per acre as the farmer in a number of civilized nations, but production per acre is not the American standard. The standard is the amount of produce for each person engaged in agriculture, and by this test the American farmer appears to be from two to six times as efficient as most of his competitors. Relatively speaking, extensive farming is still economically the sound program in our agriculture, but now it is becoming increasingly apparent that the aim must be, while maintaining supremacy in production for each person, to establish supremacy in production for each acre."

RURAL LIFE UNDER INVESTIGATION

AN inch of such statistics and facts is worth pages of theorizing, yet there are some salient conclusions to draw at this point. "The American farmers," the report goes on to say, "are more prosperous than any other farming class in the world. As a class they are certainly as prosperous as any other section of the people: as prosperous as the merchants, the clerks, or the mechanics." All of which corroborates the results of an investigation made by HOUSE AND GARDEN recently. The earning power of the farmers of New York State were compared to their social and wage-earning parallels in the city, and it was found that, whereas but few farmers make more than their living and overhead expenses, their lot is no worse than that of thousands of city dwellers. The farmer lives a more natural life and has the advantages of open-air work and physical exercise, as against the tenement and flat life of the city worker and labor in factories. The situation seems to resolve itself into "*de gustibus!*"

That the rural life is not increasing is evident from a final statement in Mr. Houston's report: the population of the nation in the last fifteen years has increased 23,000,000; the strictly rural districts have shown an increase of perhaps less than 6,000,000. It is futile to cite the multitude of reasons why rural life is not growing in popularity, though the fact remains that our much-boasted ability to feed and clothe our own will not stand investigation. We have overproduced this year, and still the high cost of living has not been reduced. Is it the farmer's fault or the fault of those who own the farm? One case investigated by a representative of HOUSE AND GARDEN made the following reply to the question of crops: "I make more money in a poor year than a good one. I'm not growing for crop results, but for crop prices." Until situations such as this are radically changed we cannot hope for a growth in the rural population, nor need we boast of our self-sufficiency.

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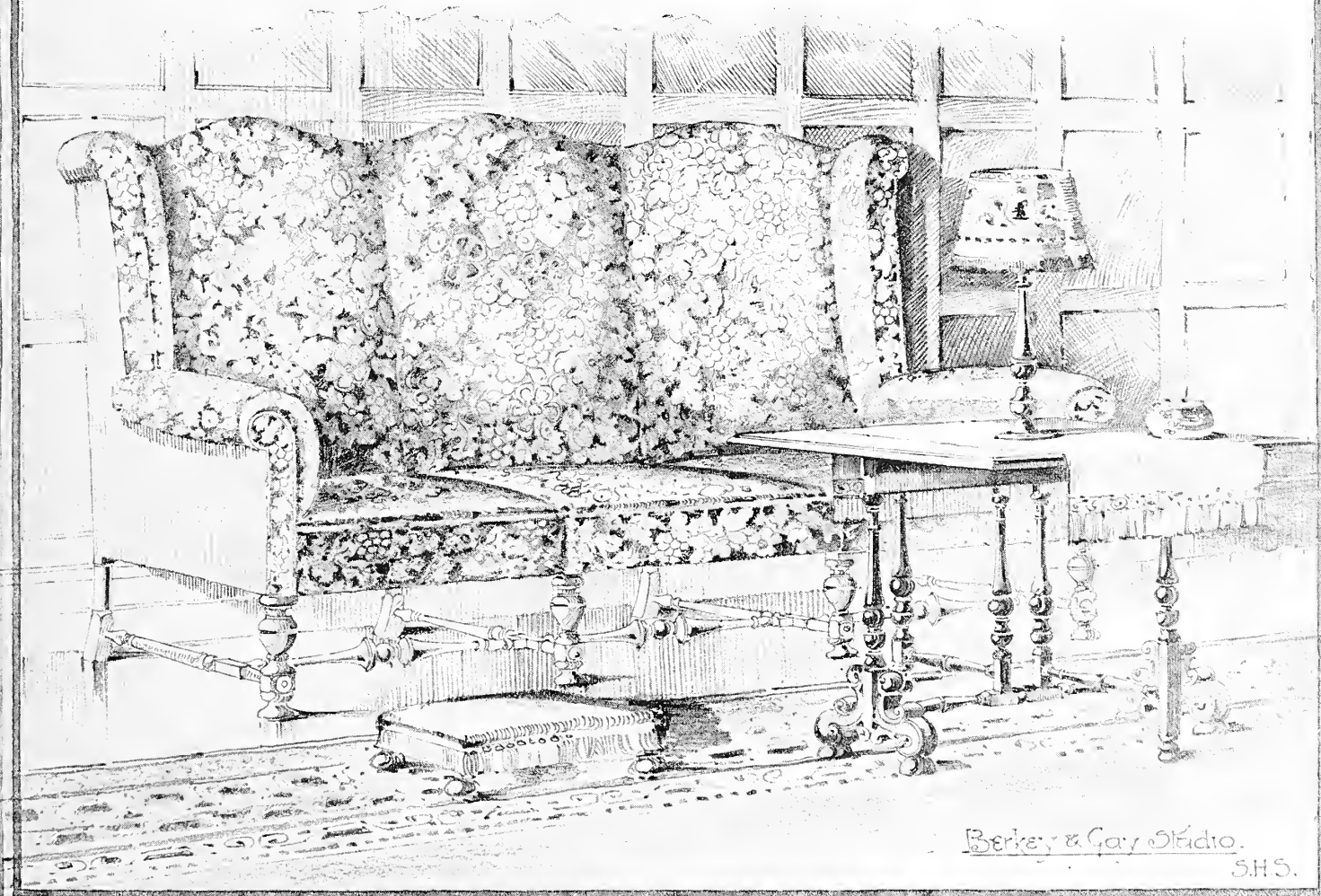
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Essentials for the Living-Room (Continued from page 82)

ture goes well with Chippendale chairs—the ladder-back for such a room—or shield-shaped, wide-seated Heppelwhites. A tall, capacious desk with built-in bookcases on either side, and an old Colonia mirror over the mantel, make up a dignified and thoroughly comfortable room. Brass andirons and fender, a brass jar made into a lamp and brass sconces on the wall are all decorative details. Plants in a sunny window are especially suitable here, and add a sense of cheerfulness. A room of this type has an air slightly old-fashioned and full of repose, and most appealing to many Americans.

With any of these rooms, where economy is necessary, willow chairs can be introduced instead of the upholstery ones, and can be made delightfully comfortable. With the decorated furniture they can be painted to match in a plain color, or, in the Jacobean or Colonial rooms, stained a dark brown or black. Another economical suggestion is to have an old rug dyed the proper color, instead of putting a large percentage of the money to be spent on the room into the floor covering.


In summer, for the Jacobean and Colonial rooms, chintz covers of some gay, yet cool, design, both save the furniture and make an agreeable change.

It is stimulating to think that at this time, in spite of the conditions abroad, there is a wonderful variety of beautiful things for people to choose from made right here in America. The opportunity to create delightful and artistic rooms was never greater than at the present moment.

Your Saturday Afternoon Garden (Continued from page 87)

vegetable matter. A generous proportion should be mixed with the other soil so that the soils may both absorb plenty of water, but permit drainage of the surplus. Cocoanut-fibre is an excellent material for covering seed, when the other things mentioned cannot be procured. If the soil is very heavy, sand, as well as humus, should be added generously to the mixture. This makes it more friable and less likely to form a crust.

The seeds should not be covered very deeply, a quarter of an inch of light soil being sufficient. Each row should be plainly tagged. As to the number of rows of each to sow, onions and beets are the things of which you will require the most plants; celery and lettuce next; and of cabbage and cauliflower, the fewest. The soil in the seed boxes should be in a good, moist condition when the seed is put in, and should be kept so until the seedlings are large enough to transplant. Extremes of dryness and moisture will tend to make poor plants. All of the seeds mentioned will start well in a temperature of 50° to 55° at night, and, if the temperature of



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the frames gets more than 10° or 15° higher than this during the day, ventilation should be given by raising up the sash. It is always best to raise it in such a way that a cold wind will not blow directly into the frame.

Through Wildfowl Breeding Grounds

(Continued from page 89)

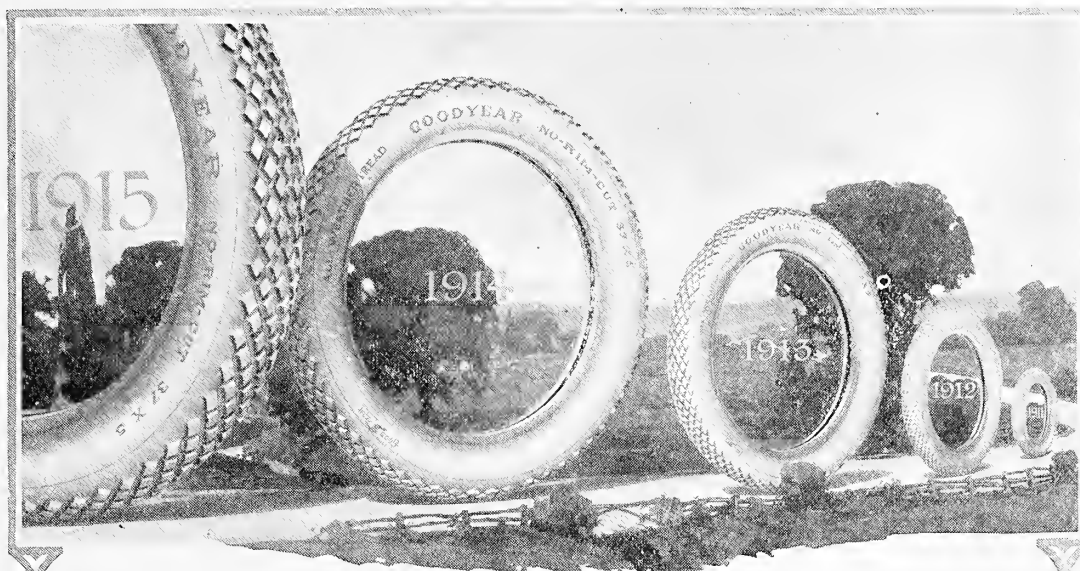
show him the wonders, but, alas! there was not a duck on the island. Investigation showed that a pair of coyotes, which had probably crossed in winter on the ice, had located there, and had cleaned out the colony. This indicates some of the natural dangers to which the wildfowl are exposed.

Proceeding further north, as in the upper parts of Saskatchewan and Manitoba, we find a country largely forested with poplar and spruce, but with very many lakes, both large and small. Around the shores of these, at least in part, extends a border of reed-grown marsh or grassy meadow, which gives good opportunity for wildfowl to nest, much as in the prairie region. Here also we find wild ducks nesting in good numbers, and some Canada geese.

Still further north, back from the shore of Hudson's Bay, it is said, are vast muskegs, where great numbers of ducks and geese breed. This sort of country is a quaking bog, a layer of turf floating on the water, overgrown with tall reeds and the like. A person attempting to walk on this is likely at any moment to break through and be immersed in mud and water. Other extensive marshes are said to be in the deltas of the northern rivers, where they flow into the Arctic Sea, notably, the Mackenzie, Yukon and Anderson rivers. Besides these larger areas are multitudes of smaller lakes or sloughs, giving opportunity for the breeding of wildfowl.

All this sort of marsh country where the fowl breed is forlorn and desolate, in a way. The tenderfoot, citified person would have no use for it. One must expect to wade and flounder and struggle to get on in the world. The outlines of scenery are monotonous, though the vast spaces, as on the ocean, are majestic. There stretches away endlessly the green-brown prairie, or the sea of reeds and rushes of the marsh.

Stand quietly in an area of reeds on the edge of open water, until the birds have forgotten your intrusion. Various kinds of wild ducks in pairs swim out before you, or mother ducks lead forth their downy broods. The curious, slate-colored coots or mud-hens paddle along the edge of the reeds, bobbing their heads and grunting as they go. Various species of grebes emerge from the water, look around, and dive again at the least alarm. Sora and Virginia rails skulk past in the thick growth, uttering wailing cries. The



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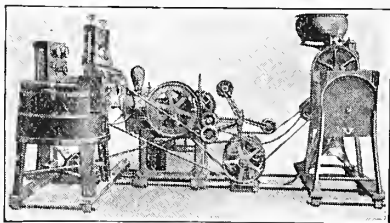
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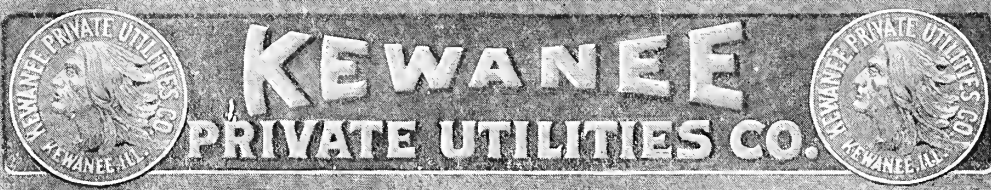
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bittern "pumps" away near by. Black terns and Forster's terns are flying about actively, and sometimes numbers of the beautiful, rosy-breasted Franklin's gull. In the reeds the long-billed marsh wrens are singing vociferously, and, like as not, there is a cocoanut-shaped nest close at hand, suspended in the reeds, as is the case with the nests of innumerable yellow-headed and red-winged blackbirds. An incessant chorus is heard, all manner of notes and cries. Something is constantly happening.

The ways of that singular creature, the ruddy duck, are curious. The mated pair swim past, the male, as always, in the lead. His bill is the color of the blue sky, and his back a rich chestnut-red, so different from the winter plumage. His little tail stands straight up and is proudly spread, each feather revealing its sharpened point. The demure little, dull-colored female, with no jaunty erection of the tail, follows obediently, and admires her wondrous lord as he displays his charms. He throws back his head, draws in his chin, and, with down-pointed bill, strikes the water with a rapid series of blows, making a noisy splashing and also a grunting vocal effort, both of which are audible at some distance. I have often heard these performances by various male ruddies all about me. But, what else does the singular creature attempt? Does he help build the nest, hidden over there in that jungle of dead stems or in the clump growing out of the water in the middle of the slough? Does he, unlike other ducks, condescend to nursery work? Once I saw a female bring out to him from the reeds a fine brood of soft, downy, black-and-white ducklings. He actually stayed near-by for half an hour, while he exhibited his funny performance, showing them what a wonderful father he was!

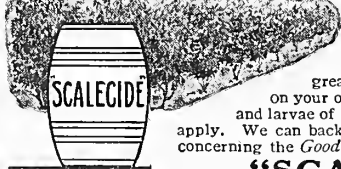
It may be of interest to name and comment briefly on the wildfowl species which occupy this great breeding area. The group of ducks known as the river or pond ducks are well represented by nearly all the species, notably, mallard, pintail, gadwall, shoveller, widgeon, blue-winged and green-winged teals. These all nest by the prairie sloughs or on the edges of marsh or muskeg. The nests are placed in thick grass or among weeds or low brush. In some cases, particularly with the pintail, one will nest as far as a mile from water, in the prairie grass. The black duck and wood duck are properly Eastern species, and only a few stragglers reach this region. In the far western part the cinnamon teal is found.

Another class of wildfowl are the so-called sea and bay ducks. It is curious that a number of species usually considered distinctly marine breed in the interior of the continent. Those nesting in the southern part of the region described, as well as further north, are the canvas-back, red-head, ruddy duck, greater, lesser and ring-necked scaup ducks, golden-



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eye, bufflehead, and white-winged scoter. The Barrow's golden-eye and harlequin ducks breed in the western parts of the area. The following species breed in the northern part of it, and along the Arctic coast: the several eiders, the old-squaw and the American and surf scoters.

The canvasback, which has great renown as the king of wild ducks, breeds in the deeper sloughs, building its nest in thick vegetation growing from water. In the marshes of Lake Winnipegosis I found a number of nests, and considered it one of the commoner ducks. Where it is found, the red-head and ruddy duck usually keep it company, sometimes close company, for they frequently lay in each other's nests, and naturally are thought of as a sort of little group by themselves. The lesser scaup comes rather near being included, though it often frequents smaller ponds, and nests rather differently. Usually I have found the nests on dry land, amid grass and weeds, particularly on stony islands. But at Lake Winnipegosis they nested altogether in clumps or tracts of grass growing from shallow water, on the edge of ponds, and they do this elsewhere, when convenient.

The white-winged scoter is found only sparingly in the southern part of the wildfowl area, and only on the large lakes. Its nesting habits are quite peculiar. Selecting an island or dry ridge of land close to the shore, the female crawls in under the thickest tangle of vines, weeds, grass or low bushes, scratches a hole, and keeps the eggs buried in the loam, which she puts back over them, keeping them buried till all are laid. Then she lines the nest with down from her breast, as do all other ducks, and begins incubation. It is very difficult to find the nest, unless one almost steps on the setting bird. They cannot fly direct from the nest, and sometimes I have caught them before they could reach the open shore.

The golden-eye and bufflehead nest in hollow trees back from the water, sometimes well back in the forest. The former is quite common in the timbered parts of Manitoba and in some places in North Dakota. The dainty little bufflehead, which is so small as to nest frequently in old flickers' holes, seems to be growing scarcer all the time. It has disappeared from Lake Winnipegosis, where it was formerly common, and there is danger of extinction.

The mergansers—hooded, red-breasted, and American—breed in this great area, and complete the list of the ducks. The Canada goose breeds as far south as North Dakota, but the other geese—blue, snow, white-fronted, the brant, and the few remaining swans—nest far up along the Arctic coast. Many of the shore-birds, a tribe noted for their powers of flight, nest in this great region, a few kinds well south in the prairie country.

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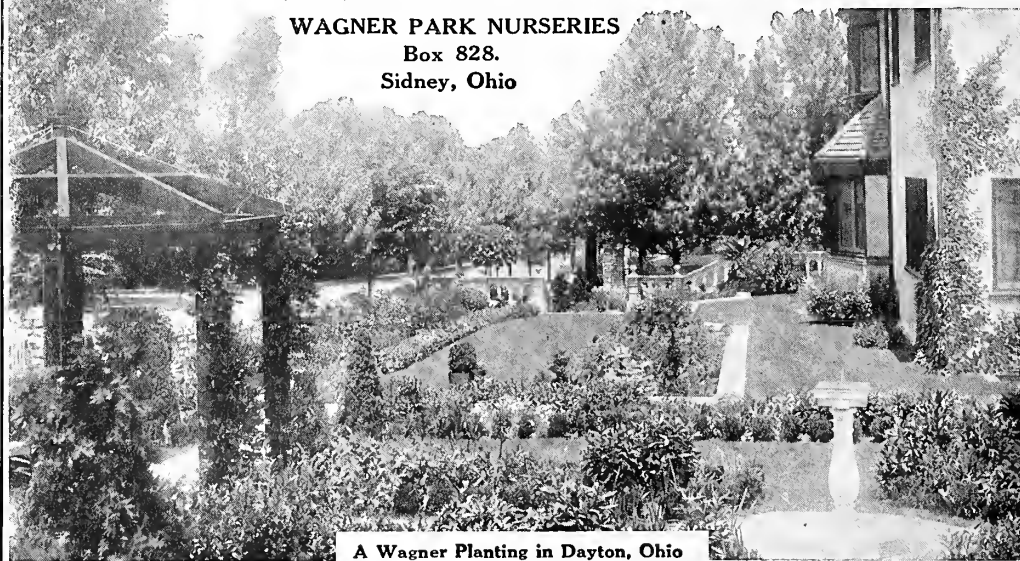
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No. 1



No. 7

yond all reason, through ignorance and selfishness. Can we check the slaughter, and will this great Northwest wilderness suffice to keep up the supply?

Great changes certainly are taking place, particularly in the prairie region of the southern part. Settlers are pouring in, the land is being broken by the plough, and marshes are being drained for agriculture. This is driving the wildfowl from these prairies. Railroads are being pushed in various directions, even to Hudson's Bay, which in a year or two will be accessible. Gunners and depredators are thus pouring in. In addition, Indians and settlers live on the land, and take what game they require for food at all seasons.

It has been well suggested that the area adapted to breeding purposes is not as vast as has been supposed, which is doubtless true. To offset this, however, is the fact that the available area does not possess its normal quota of breeding wildfowl, probably because the stock has been so depleted on the migration south. These unspoiled areas can certainly produce more wildfowl than they do at present. Even yet, multitudes of fowl are still reared in this great natural preserve. In autumn, on the western lakes and marshes, they still swarm in tens of thousands. They can yet be saved if the breeding grounds can be better protected, and if the migratory host can be saved from undue slaughter on its long journey and on the winter feeding grounds.

The former is for the Canadian government to carry out, the latter largely for us. It is a matter of patriotism and public obligation for game officials in every State to support and co-operate in every way with the Federal authorities, and likewise for all sportsmen who are gentlemen and not mere pot-hunters. If we can save and send back to the breeding grounds each spring a million more of wildfowl breeding stock saved from the avarice of man, and these return with their broods, it is not difficult to calculate the result.

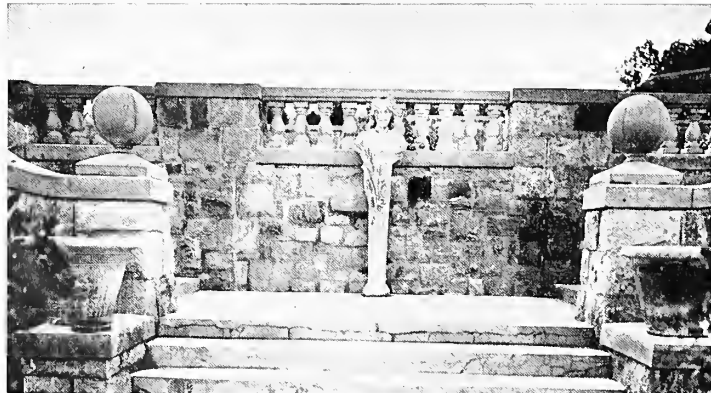
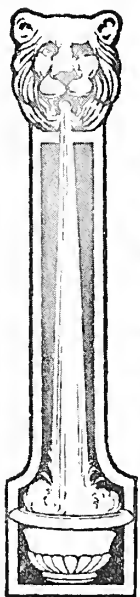
Creating Personality in Bedrooms

(Continued from page 92)

long reach between tawdriness and richness as one might imagine.

Another point as to the use of color: take into consideration the color you most effect in your clothes. I know a woman who wears much lavender. She furnished her boudoir and bedroom—shades of sixty-two!—with a predominance of red. The moment she entered that room her personality lost itself in the shock to one's color sense. Later, the same woman, having learned her lesson, always tried out pieces of her new gowns in the rooms in which she would appear in them most frequently.

Time was when the guest-room held mostly the dejected, and, alas! often re-



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jected furniture from the other rooms. Now a hostess plans carefully for her friends' comfort, and the shops aid and abet this altruistic motive. She realizes the joy a restful room is to a visitor, and she plans it with the idea that after her guest has been dined and wined, taxied and tangoed, her four walls are a haven of peace. Thus an excellent arrangement for that room is to use a gray lacquer furniture, including a chaise longue and several stools. With this, a portable desk of black Chinese lacquer and a fetching little dressing-table of the same design. The hangings are of gray linen with a wonderful Chinese design in many colors. Underneath the dressing-table, placed in front of a window for good light, is a black rug. A piece of green pottery highly glazed, together with two Japanese bronze candlesticks above the fireplace, make the room an artistic success, as well as a room of much comfort to the guest.


A man's bedroom is rather less of a problem, since his ideas are mainly as to comfort, not as to decoration. He must have ventilation; see to it, then, that there is in his room a fireplace, for these are as valuable for their ventilation as for their air of coziness. A man's grate should be as his shoes, polished to the point of perfection.

In his room, as in all bedrooms, it is best to have a few small rugs, rather than stuffy carpets, since the former are more easily taken up and cleaned than a single large, heavy rug. The furniture must be simple in line and construction—and masculine. Is anything worse than a man's room filled with simpering furbelows?—and yet it is done. What a crime to perpetrate! A good type for his room is furniture of the William and Mary period in walnut—not the dark, heavy, over-ornamented Victorian, but the well-proportioned, substantial-looking kind.

For color, green and brown, or both combined; perhaps a linen of Jacobean design at the windows; and a great, comfortable chair by the bedside stand. This stand should be large enough to hold, beside a serviceable lamp, a pile of magazines and best sellers, for it is thus that most men quiet down for the night.

In general, avoid unnecessary details in bedrooms. The simpler, fresher they are, so much more are they the things that architects and decorators and hostesses intend they should be—rooms of re-creating sleep.

If St. Patrick could see the story called "Real Irish" in the March HOUSE AND GARDEN he would shout for joy. You dog lovers who have an Irish terrier will shout, too.



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What Was Done With a Five-Room Cottage

(Continued from page 95)

benches, palms and growing plants, tend to give the impression of an inside garden, distinctly different from the usual sun-parlor. Opening into the court are a homelike living-room and a small den. The living-room is a late addition, but the den dates from an earlier period of reconstruction, and was formerly used as a bedroom. It is a restful spot, with gray-toned wall and pink, chintz-covered chairs and draperies.

The living-room betrays the intimate touches that come from daily association, and is in every sense what its name implies. Books, old family portraits, personal possessions of individual members of the family, with big, roomy chairs and old mahogany tables and desks combine with the grays and old reds of the walls and furnishings to fill the room with an all-the-year charm. It looks out over the garden lying only fifty or more feet away, across an open stretch of bluegrass.

Bedrooms on the upper floors have no point of especial distinction beyond their convenience and light airiness. In the remodeling of the house a generous provision was made for bathrooms. From the original place of some years ago, lamp-lit, with water supplied from the spring down the hill, to the modern home with its splendid lighting and numerous baths, there is registered vast strides towards comfort and convenience in suburban and country homes. While "Longview" still prides itself on being a country home, the city is creeping up on its very heels. But for its protecting acres, it doubtless, before this, would have received from the city some of the objectionable features of the suburbs, along with its privileges of lights and water. Well fortified by its open stretches of lands, except for the fact that the house lies between two lines of street cars, "Longview" is, happily, isolated from its neighbors and civilization in general.

Of all of its possessions, the garden is the best beloved by its gentle mistress. Like all true old Southern gardens, the kitchen and flower garden are combined. There are four acres, with two quaint entrances from the yard—gates of carved stone, with stone benches beside them. In the stone wall that surrounds the garden is a fussy little fountain hurrying into an artistically shaped basin. Inside the garden are other stone seats and another busy little fountain in a quaint, circular basin.

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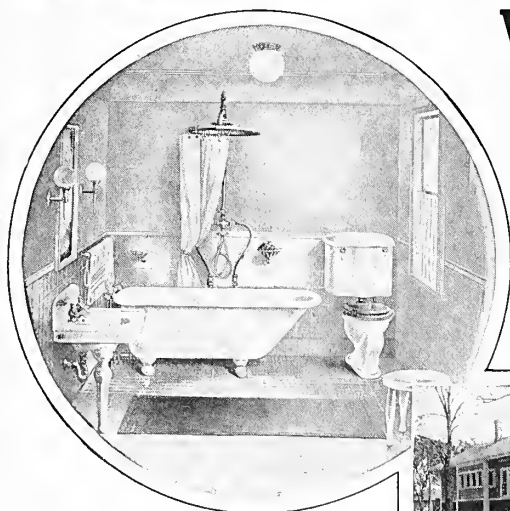


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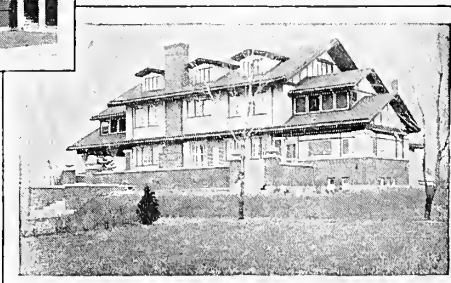
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The Electric Automobile in the Country.

(Continued from page 103)

cost for current of two cents per mile, and for tires of a shade under one cent per mile. This is at least as good, and probably a much better showing than would result from a similar canvass among owners of gasoline cars, in which gasoline, oil and tire costs were figured. It serves to prove in a most comprehensive and conclusive manner the marked economy of operation of the electric automobile.

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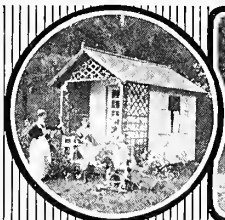
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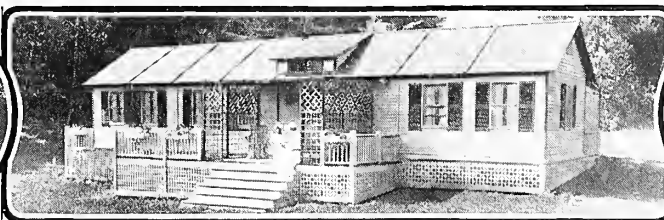
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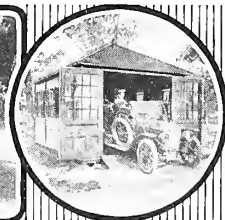
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The plan of the Exposition gardens has been formulated by the eminent landscape gardener, Mr. John C. McLaren, who has designed the famous Golden Gate Park at San Francisco. Under Mr. McLaren's supervision a small army of expert gardeners are at present working on the preparation of plants, blooms, trees and flowers that will be used in the decoration of the World's Fair of 1915.

The site of the Exposition at Harbor View lends itself particularly to beautiful color and floral effects. It is situated on the shores of the bay of San Francisco, near the Golden Gate, the entrance to the bay from the Pacific Ocean.

Along the water front which faces the hills of Marin county, with Mount Tamalpais overlooking the whole, there is to be a grand esplanade a mile in length. Here will be planted the hardy trees and shrubs and the palms and flowers that need less sheltered courts than the more delicate specimens which will be used in the decoration scheme in great profusion.

The more exotic plants will ornament the formal gardens of the inner courts and promenades, where they will be protected from the ocean breezes. For the esplanade there are now being nurtured hundreds of pine, lady birch, myrtle, olive, cypress, acacia and other hardy growths. Against the old ivory white of the Exposition palaces and triumphal arches, the dead green of the myrtle mingling with the silver green of the olive, the gray of the dainty lady birch and the livelier greens and yellows of the acacia, will produce an effect of striking beauty.

It is interesting to note the influence of Japanese art on floral decorations in the Exposition. In many of the open spaces, and in the more spacious places of the inner courts, there will be seen the pink and white spray-like tracteries of the flowering peach and delicate heliotrope of the graceful wistaria, which constantly occur in Japanese prints and paintings and works of applied art. Under the clear, blue of the California sky, the wonderful effect on these and kindred flowering growths may easily be conceived.

According to Mr. McLaren's plan, most of the beds in most of the courts will be laid out with flowers of the same general color, producing a brilliantly dazzling effect. But in other courts and boulevards a marvelous kaleidoscopic spectacle will be produced by the use of varicolored plants and flowers in generous abundance.

Here and there will be a court with flower beds trimmed with the waxy fuchsia, another aflame with the red, orange and yellow of the aster, and still another set with the scarlet spikes of the salvia. There will be vistas lined with the star-like marguerites against rich, green avenues screened with clematis and bougainvillea and gardens flanked with asparagus ferns.

Adding to the general beauty of the



Speaking of Heating Churches

More People go to Sleep Because of Reheated Dead Air, Than Poor Sermons

NOT one of the Committee who have charge of deciding on how the church is to be heated, would think of drinking stagnant, seamy water. Yet that same committee will decide to put in a heating apparatus in the church that heats and reheats the same old dead poison-infected air.

Is it a wonder, then, that people nod in their pews?

Is it a wonder they go home with "a Sunday headache?"

The ideal heat for a church, as well as for a home, is that heat which both heats and ventilates at the same time.

Just such a heat is the Kelsey Heat.

But it is not only a healthy heat, it is an economical heat. In short, it is a heater and economizer.

If you are on the heating committee, let us tell you just what there is about the Kelsey Heat, before you commit yourself on any kind.

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Our "New Guide to Rose Culture" for 1915—Free

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Established 1850. 70 Greenhouses.
THE DINGEE & CONARD CO.
Box 274 West Grove, Pa.

gardens will be pools clothed with lotus pads, and winding stretches of still waters with an effulgence of water lilies, beneath which gold fish sport and play in the sunlight.

At this time, nearly two years before the opening date of the fair, practically all the plans for the floral decorations of the Exposition grounds are completed, and the thousands of trees and plants are ready for transplantation from the nurseries and green houses, which have been especially erected at the San Francisco Presidio by the Exposition Company.

Six green-houses have been built, each 150 feet in length, and another block of glass-covered hot-houses is now under construction. Near by is a ten-acre tract of especially prepared ground, where millions of cuttings and seedlings have been planted. More than 600,000 flowers and shrubs have been raised in the green-houses, and many times that number will be raised under roof during the next few months. Special nurturing plots have been laid out under glass roofs for the tropical plants and trees too exotic to thrive in the open. It has taken months to install into these tender specimens of ornamental vegetation the life necessary to make them thrive and blossom in their new climate.

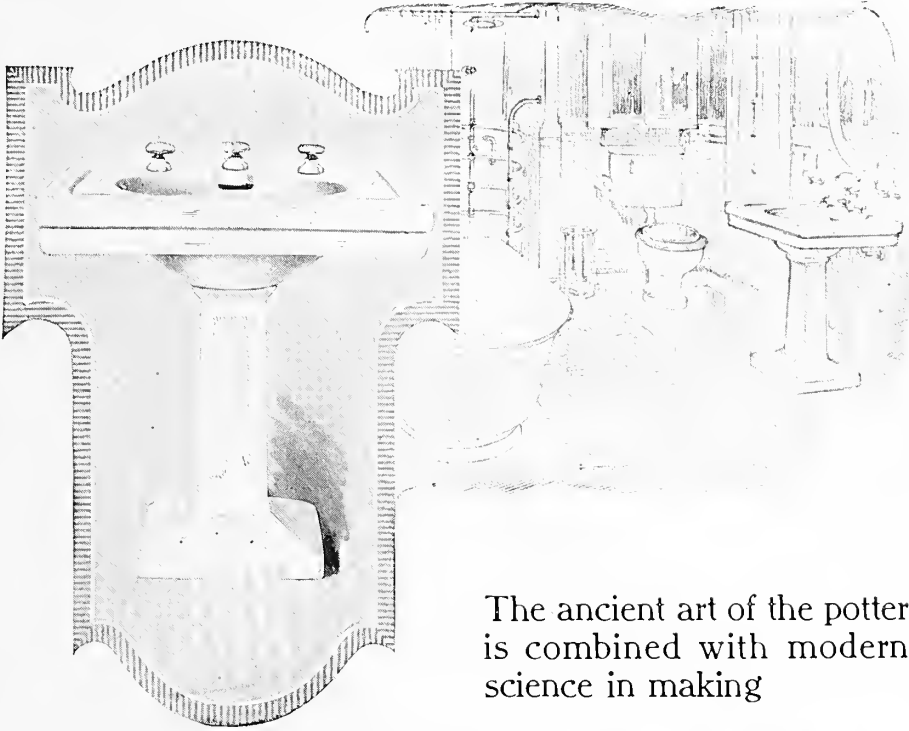
The flowers and plants which are now thriving and flourishing in the Exposition nurseries and which will later become integral parts of the floral decorations of the fair, include floristina, escalonia, eunymus, honeysuckle, bougainvillea, santolina, geranium, marguerite, clematis, scianum, plumbago, bigonia, calianthus, arbutus, salvia, fuschia, muelenbeckia, streptosolon, aralia, and hydrangea. There are thousands of other perennials and the larger growths of shrubs.

The trees for the Exposition include many of Australian origin, brought to San Francisco during the past year. They stood their journey across the line well, and are thriving much better than was expected.

The flowers will be planted in the Exposition grounds and gardens according to their seasons of bloom, and removed when their blooming period passes. Then other varieties, budding and breaking into flower, will take their place. There is not a month of the year in California which does not have its plentiful supply of flowers. This arrangement of rebedding and transplanting all through the year will give to the Exposition an effect of continuous brilliancy. There will be no fading, yellow autumn tints in the gardens of the Panama-Pacific International Exposition. It will be springtime all the year round.

Aside from what the Exposition will do in floral decoration through its own landscape gardening experts and in the marvelous exhibit promised under the roofs of the horticultural buildings, where

The Trenton Potteries Company



The ancient art of the potter is combined with modern science in making

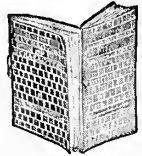
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Modern science has made them as sanitary as a dinner plate and you can select designs which will harmonize perfectly with the architecture and furnishings of your home. Real Vitreous China, of which they are made, is white through and through, cannot rust, cannot change color, nor lose its satiny sheen. Nothing short of actually smashing it will injure it.

Architects and plumbers everywhere will assure you that there is nothing better. Remember, the installation work costs the same whether you buy cheap fixtures or the best.

Write for Booklet L- 8, "Bathrooms of Character"

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Makers of the Silent SI-WEL-CLO Closet





Country Club Houses

should fit into their picturesque surroundings as harmoniously as possible, and suitable coloring does more than anything else in accomplishing this. The soft natural tones of

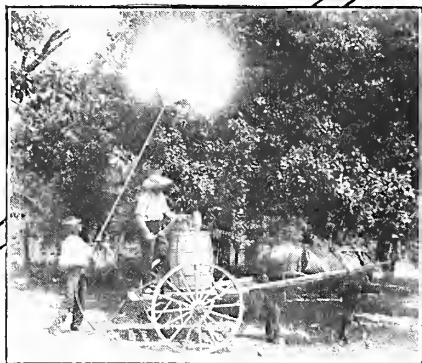
Cabot's Creosote Stains

in browns and grays to match the bark and rocks and weatherbeaten wood, greens to match the moss and foliage, dull reds for autumn effects, etc., make the buildings blend with the landscape and look like a part of it. Low cost, easy to apply, lasting, and the Creosote preserves the wood.

You can get Cabot's Stains all over the country. Send for stained wood samples and name of nearest agent.

SAMUEL CABOT, Inc., Manfg. Chemists, 11 Oliver Street, Boston, Mass.
Cabot's Stucco Stains—for cement work.

Country Club, St. Joseph, Mo. Stained with Cabot's Stains. Roof Red (Mottled Tile Effect), Trimmings Dark Brown. Walter Boschen, Architect. St. Joseph



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YOU can save your shrubbery, fruit trees, plants, crops, from dangerous insects—blights. You can make every tree, vine, plant, produce greatest yield of finest quality crops. And all this at a saving of time, money and labor over ordinary methods. Make up your mind to

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have found this Spraying Guide wonderfully helpful. So will you. Send for your copy.

Brown's Auto-Sprays—made in 40 styles and sizes—hand and power machines—from 50c to \$300.00. See our line at your dealer's. Three styles here shown. Top photo shows Style No. 24—Barrel Sprayer for Orchards and Field Crops. Left half of bottom photo shows our famous style No. 1—4 gal. capacity—the correct size for 5 acre field crops and 1 acre of trees.

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Joy. The best and most prolific Blackberry.
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Everybody's. Best Currant for everybody.
Carrie Gooseberry. Succeeds everywhere. MY CATALOG No. 1, an illustrated book of 64 pages, tells all about them and describes, with prices, all "the good old varieties" of Small Fruits as well. It gives also full instructions for planting with cultural notes, and tells about the giant Jumbo raspberry that I am giving away. It is free.

J. T. LOVETT, Box 152, Little Silver, N. J.
For 36 years a specialist in Berry Culture.

flowers and plants from all corners of the earth will be seen, the marvels of the celebrated plant wizard, of Mr. Luther Burbank's fields and gardens, will be found in a special exhibit section. Burbank's plants are numbered by the thousand. He has signified his intention of producing a large and comprehensive exhibit of his own and Nature's prodigies of plant life. He has already engaged the services of a famous Pacific Coast expert to process hundreds of his fruits, flowers and other vegetation for display at the Exposition.

Japan has appropriated a million and a quarter dollars for its national exhibit, which will be set in a Japanese garden laid out by gardening experts from the Land of the Rising Sun. It is Japan's intention to lay out and plant this immense garden with a view to permanency and to present it to the city of San Francisco at the close of the Exposition.

"Cluck! Cluck!" Time to think of the poultry yard, sir. Time to think of incubators and the new broods and how to care for them. E. I. Farrington tells you how in the March HOUSE AND GARDEN.

Methods and Results of the Winter Spraying

(Continued from page 98)

Kerosene-Soap Emulsion.— $\frac{1}{2}$ lb. hard soap, or 1 qt. of soft, 2 gallons of kerosene, 1 gallon rainwater (if necessary to use hard water, "break" it with lye). Dissolve the soap in the water by boiling. Take this from the fire and add the kerosene immediately, while it is still boiling hot, churning the mixture violently the while by pumping it back upon itself through an open nozzle that will throw a strong stream. Usually five minutes of such churning will bring the emulsion, when the bulk will have increased by from one-third to one-half, and the mixture will be as thick as very rich cream. This is the stock, to be kept and reduced for use as needed.

Solution "A"—Dilute one part of the stock with 10 parts of water for apple and pear trees.

Solution "B"—Dilute 1 part of the stock with 15 parts of water for plum, peach, cherry, apricot, and all other trees and shrubs.

Efficiency in the Flower Garden

(Continued from page 105)

The first essential in getting a successful flower garden started is that it shall be well drained. If the ground is sloping it is pretty sure to be all right in this respect. An examination of the sub-soil where the ground is level will usually show whether any surplus water can drain off quickly. Heavy soil with a hard-pan or impervious sub-soil are a bad combina-



THIS instructive book of 144 pages, devoted to everything for the *Farm-Garden-Lawn*, brimful of useful information and suggestions, is yours for the asking.

It is attractively and conveniently arranged with many clear pictures showing results you can obtain in your garden and text explaining how to get these results.

It contains complete description of the latest novelties and specialties in flowers and vegetables, as well as standards.

All plants described are grown from superior strains, selected from types that we have tested with splendid results.

That our seeds give satisfaction is attested by the fact that, from a small beginning 17 years ago, our business has steadily grown until it has become necessary for us to occupy one of the largest buildings in New York devoted to this kind of business.

A copy of this useful catalog sent free upon request. Kindly mention HOUSE AND GARDEN when writing.

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Sold by Garden Supply Houses Everywhere

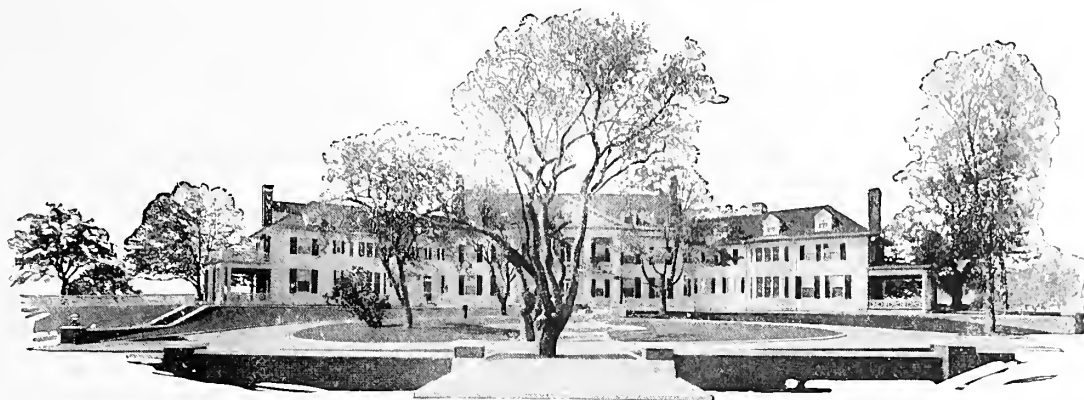
tion. But by the use of the tile drain, tiles to take off any surplus water, or by using dynamite to break up the sub-soil to let it through, conditions which are naturally unfavorable may be overcome. The latter is especially useful for this work, as it can be used under beds in isolated spots, while to use tile a complete "system" must be put in, extending from the spot to be drained to lower ground elsewhere. The expense of improving a small amount of ground by either method is very little.

The location of the garden is another important point. Most flowers and plants thrive best with all the sunshine they can get, although very few are injured by partial shade during the middle of the day. They appreciate also protection from north and west winds. Anyone who has wandered through spring fields and noticed how the wild flowers seemed to flock to the sheltered slopes and the sunny nooks and corners can appreciate the difference which favorable conditions in this respect will make.

In connection with the location of the garden there is another double-edged suggestion, of which the gardener should never lose track—the location should be chosen to suit the things to be planted, and the plants selected to suit the location. Where one cannot be changed, the other can. There is no excuse for the gardener who puts a shade-loving plant in the bright sun, or one that likes heavy soil and proximity to water in a dry, sandy bed.

The character of the soil itself is also important. But either the soil or the gardener must be very poor if any ordinary disadvantage in this respect cannot be overcome. Neglect in enriching and handling the soil properly is the most usual mistake of flower gardeners. Questions of special preparation for the different classes of plants will be discussed as they occur later in this series, but the gardener should do everything possible in the way of getting his beds and borders into proper shape before he begins any actual planting. This is especially necessary with hardy perennials and things of that sort which will occupy the ground for several years after they are once planted. Heavy applications of rich, well-rotted manure or compost are almost invariably beneficial. Ground limestone may also be used freely to advantage, as it improves both the physical and chemical condition of both light and heavy soils. Most thorough pulverization of the soil in the way of trenching, forking and working over, including very careful raking of all surfaces to be sown or planted, cannot be overdone. Too often these things are done in an indifferent or makeshift way in the hurry to get something set out.

Take the same care in enriching and preparing your flower garden as you would in enriching the vegetable garden. That will give you a basis upon which to begin operation, with some certainty of success.



Country Estate, Westchester County, New York
Arthur T. Remick, Architect
Kewanee Water Heating Garbage Burner Installed

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Turn Garbage Into Fuel



¶ A Kewanee Water Heating Garbage Burner in an apartment building, hospital, restaurant, hotel or home, will burn the garbage and rubbish, without odor, before it has a chance to decay and breed and feed rats and flies and other filthy vermin and insects.

¶ And it will use this garbage as part of the fuel necessary for the heating of the necessary hot water supply.

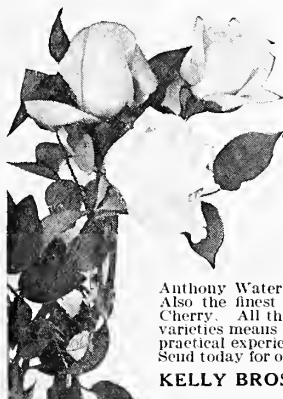
¶ It is the most inexpensive water heater (from the standpoint of operating costs) on the market in addition to being the only really sanitary method of disposing of garbage.

¶ A booklet entitled "Turn Your Garbage Into Fuel" describes this device thoroughly. We will gladly send a copy to you upon request.

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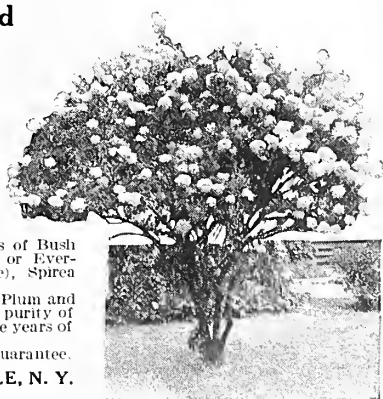
Roses, Flowering Shrubs and Fruit Trees

which will bud, bloom and fruit True to Name, sent direct from our Nurseries to your garden at wholesale prices.

This Spring we offer the finest selection of hardy, field grown Hybrid Perpetual and Hybrid Tea or Everblooming Roses. Our list includes the choicest varieties: Maman Cochet (white) Maman Cochet (pink), William R. Smith, American Beauty and Killarney. The stock is all two year old, No. 1 strong bushes. Our book tells you how to plant and care for them.

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can remedy the defects that make your trees easy victims of winter storms. **Have your trees examined now.** Don't wait until some storm does irreparable damage.

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—26 rooms and attic. Price \$12.00, or with all-copper roof, \$15 f. o. b. Chicago.

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I've won thousands of bird tenants for myself and my friends. I'll help you win birds—wherever you live. Write for my free Book about Birds—based upon my 19 years' work for our native birds.

Among the 24 bird houses, shelters, baths, etc. described and illustrated in my free book are:

Bluebird House, \$5.00. Swallow House, \$3.00 and \$4.00. Chickadee or Nut-Hatch House, \$2.50 and \$3.50. Flicker or Woodpecker House, \$2.50 to \$5.00. Flycatcher House, \$3.00 and \$4.00. Observation House, \$4.00 and \$5.00.

Dodson Wren House—Solid oak, cypress roof. Price, \$5.00 f. o. b. Chicago.

The famous Dodson Sparrow Trap automatically catches these quarrelsome pests—catches as many as 75 a day. Price \$6.00. All prices are f. o. b. Chicago.

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Note—Mr. Dodson, a Director of the Illinois Audubon Society, will gladly answer any questions on the subject of attracting and protecting our native birds.

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Six "Incomparable" Dahlias for Garden Decorations, for \$1.25

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Peony-Flowered Dahlia

When, How and Where to Paint

"TO paint or not to paint" is no longer the question for the modern home owner—but rather, "When to paint" or "How to paint." I shall try to tell you in a condensed way something about paint efficiency. It may be that some of my advice is an old story to you, but by glancing through this article you possibly can hit upon those questions in which you are especially interested.

You might just as well ask the question, "Why go to the dentist?" as to ask "Why paint?" In both cases the answer is "to protect from decay," with perhaps the additional reason, "to beautify." Yes, paint is as essential to property as dentists are to teeth, and those who avoid either do so to their own loss.

Granted, then, that you paint first of all to protection, and, secondly, to beautify, you face the problem of what kind of paint to use. You have the choice of hand-mixed paint or of ready-mixed paint. By hand-mixed paint we mean paint which a painter mixes himself according to his own fancy and judgment. He, himself, often grinds the ingredients—white lead, linseed oil and the necessary drier and coloring pigments. Some people prefer this method of painting, because they claim they can specify and know just what ingredients are used, and they like to dictate how to mix these ingredients or else depend on some painter in whom they have confidence.

The other way is to use ready-mixed or machine-made paint. This kind of paint is being more generally used all the time, as it is more in keeping with modern ideas of efficiency. Machine-made paint is always the same—the most scientific formulæ can be followed out exactly—the ingredients can be more finely ground by powerful, modern machinery than by human power. With your materials ground and mixed to such a fine degree, you obtain paint that has great spreading capacity, and, therefore, great economy. Another argument in favor of good, machine-made paint is that it is more likely to contain zinc. This is an essential protective ingredient for paint, but it is not so often found in hand-mixed paints. Of course, all machine-made paints are not desirable, but there are any number of firms who manufacture good ready-made paints. So, in your painting, specify a paint that is guaranteed by the trade-mark of one of these well-known concerns.

Under no circumstances should a new house be painted before the wet basement or the plaster has dried out. It should be borne in mind that every yard of green plaster contains nearly a gallon of water, and unless thorough ventilation is given and the moisture is allowed to evaporate and escape in that way, it must necessarily escape through the siding (which may have been thoroughly dry when put on), and the result must inevitably be blistering or peeling. Painting during, or fol-

lowing soon after, a dew or heavy frost or fog, or in any heavy, damp atmosphere, is likely to produce unsatisfactory results, as dry siding absorbs moisture very rapidly. To the greatest extent possible, painting in the direct heat of the summer sun should be avoided. Paint on the shady sides of a building as much as can be done. Painting around fresh mortar beds should be avoided on account of the tendency of the oil in any paint to absorb the moisture and fumes from the lime, destroying the life of the oil and causing the paint to flatten out and perish.

Here are a few rules which in general apply to any finishing in which you want the best results. See that the surface is free from grease and soot. If it has been previously painted and is peeling, scaling off or cracking, burn off all the old paint. See that the surface is perfectly dry. Moisture is what often causes blistering, cracking, scaling, and like troubles. All pitchy surfaces should be treated either by burning or by sealing with good orange shellac. All knots should be carefully treated with shellac. Make sure the paint is mixed and stirred thoroughly before using. Do not paint in frosty weather or over too glossy a surface. Any paint may "crawl" under such conditions. Unless you have perfect confidence in your ability or your painter's, do not use boiled oil in any form or for thinning. Boiled oil never dries thoroughly, and always leaves the surface in bad condition for repainting unless rightly used. Pure, raw linseed oil should be used; it dries through and through and leaves a good, hard surface for repainting. "Elbow-grease" must be used to spread any paint out into thin coats and to brush it well into the pores of the wood.

Here are a few things to remember when doing your interior "brightening up:"

In using enamel for finishing (and you are very likely to paint an old desk or table), remember first to apply two, and probably three, coats of flat paint. If you have a good, solid surface on which to apply your enamel, you will not only produce a better effect, but save time and expense, which would be wasted if you had a poor undercoating and were forced to put on several enamel coats.

In finishing a floor, remember to begin at the corner farthest from a door and work towards your exit, otherwise you will find yourself "cornered" and surrounded by a sea of wet varnish or stain!

You no longer need bemoan the fact that the furniture in a certain room doesn't "match." The many stains to be had now will closely imitate nearly every kind of wood.

Time was when varnish turned white if any liquid came in contact with it. Varnish can now be obtained which is perfectly heat and water proof. So, when purchasing varnish, or when your painter is using it, ask if it is waterproof.

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Using **Arkansas Soft pine** for the **Interior woodwork** you get a physically fit and desirable associate for yourself, your family and your friends.

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Arkansas Soft Pine Trim for small cottages may be secured in stock or special patterns from your local lumber dealer.

Where the trim and woodwork is specially designed by your architect it should be prepared by the best manufacturer of millwork and finished by the best decorator at your command.

"An Architectural Aid" will aid you to decide. Sent **FREE** on request.

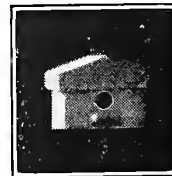
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Save Money by letting us figure on your requirements. Our expert can aid you in arrangement as well. Full information on request.

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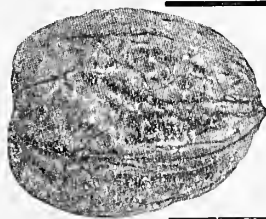
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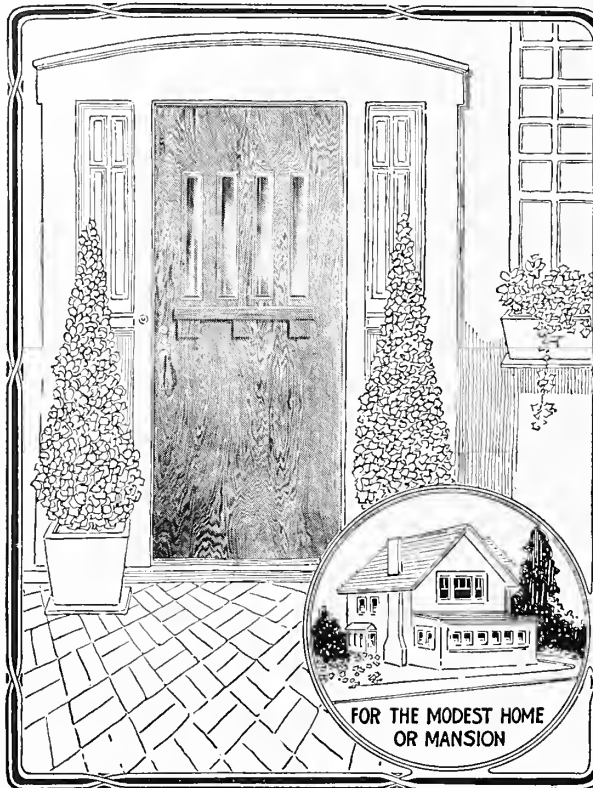


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Apply wall paints with a wide wall-brush and work freely with sweeping strokes. This will produce a smoother and less "streaky" effect.

Remember to stir all paints thoroughly from the bottom of the package.

Unless you are very confident of your own ability in selecting color schemes, I would advise you to leave this matter in the hands of experienced architects or decorators—some of the more prominent paint manufacturers conduct decorative departments which furnish special decorative suggestions free of charge. But there are a few simple rules which you can safely follow out in selecting the colors for your exterior painting. You should first consider the surroundings of your home, and then keep in mind the fact that the colors used should harmonize with these surroundings and the house seem to be a part of them. Don't get the idea that a house, in order to be satisfactorily painted, should stand out in strong contrast to its surrounding—on the contrary, it should really harmonize with them. If the house is well surrounded with foliage, select medium warm colors, which will give you a slight contrast between the house and its environment. On the other hand, if the house is subjected to the glare of the sun, very frequently a satisfactory painted effect can be obtained by using the cooler colors, such as grays, drabs, greens, etc. If your house has rather elaborate trimmings, simplify them by painting the entire trim in one color, thus keeping these parts subdued; the plain effects have much more dignity. The tall, plain house can oftentimes be improved by selecting two body colors—a light one for the lower and a dark one for the upper part. It does not cost any more to paint a house in an attractive color combination, and a little extra care in choosing these colors is well worth while.

It is only in the last few years that we ever discussed the matter of walls. Painted walls were not even considered except for hospitals, offices, kitchens and bathrooms. But nowadays it is very different—walls painted with oil finish are constantly growing in popularity, and decorators are devoting quite as much time in developing attractive painted walls as they used to in selecting wall papers. The painted wall undoubtedly has many arguments in its favor—it affords a soft, velvety, background; it does not fade, and above all, it is washable. So it is safe to say that flat wall paints are here to stay.

When you choose your interior paint color schemes you can allow your own personal taste to have more play. Some people prefer the darker type of room, with tan walls and oak woodwork, while others like pale-gray, or even white walls and woodwork. Again, we will find some adapting the futurist ideas of black woodwork and vivid wall coloring. For general good taste, however, it is safe to say that the most pleasing and artistic interior



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effects result from walls that are painted soft, neutral shades. This makes the wall live up to its real decorative object—a background. You should, of course, remember that poorly lighted rooms require light colors, while sunny rooms can stand the deeper shades.

On these painted walls the plaster can be left smooth finished or in the rough. The latter looks very well when darker colors are used or when the wall is painted in stippled effects. But in small rooms painted in lighter tints, the smooth finish is more desirable.

The finishing of woodwork is largely a matter of taste, but there are a few rules which should be followed out in regard to floors. In choosing the colors, you should be guided by the other decorations of the room, especially the woodwork. All shades of brown are most practical, but it is well to select a shade somewhat lighter than the woodwork. If the woodwork is in white enamel, either a very light or a very dark tone would be appropriate for the floor. Painted floors are often desirable, especially when the wood is in poor condition and you do not wish to go to the expense of making it suitable for staining. You can develop some very attractive effects with painted floors—in some rooms you can use greens. I have seen white floors used to good advantage in country homes which had white woodwork and furniture. The new rag rugs or plain, bright-colored rugs look very well on these white-painted floors.

W. B. POWELL.

704,000 Golden Flowering Plants

DURING the last three weeks in October the landscape gardeners of the Panama-Pacific International Exposition at San Francisco, under the direction of Donald McLaren, set out the enormous number of 704,000 golden flowering plants in the main entrance plaza, facing the Tower of Jewels and in the minor courts of Palms and Flowers.

Work was begun October 20th on the final transplanting of 27,000 yellow wall-flowers and an equal number of Golden Spanish Iris in the Court of Palms, which looks out upon the Palace of Horticulture. The Tower plaza already has been planted to 200,000 yellow pansies, 100,000 yellow daffodils and 100,000 golden poppies. In the Court of Flowers, which opens toward Festival Hall, will be 150,000 golden poppies, 50,000 daffodils. This first planting will be replaced later by other flowers, so as to keep constant succession of bloom as a carpet for the Exposition. There will be no palms in the Court of Palms, the space being given over to acacias, towering cypress and low-growing eugenias. The balustrade surrounding the pool will be overhung by trailing muehlenbeckia, or maiden-hair vines.



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Care of the Bathroom

(Continued from page 109)

Another bathroom fitting which needs to be handled with extreme care is the towel rack. A rack attached to the tiled wall is never strong. Before a rack of this kind can be secured to the tiling it is necessary, first, to bore into the tiled surface; into these holes, then, are placed small wedges of wood. And, finally, the rack is secured to the tiling by small screws screwed into these inserts of wood.

On a rack of this description it is decidedly unwise, therefore, to place a heavy object of any kind. A different rest should be supplied for the bath mat and for heavy, wet towels.

The bathroom floor is also an important thing to be considered. If it is a tiled floor, like the tub and bowl, it may be very satisfactorily cleaned with gasoline. But with this I find it very advantageous to use a good laundry soap.

A rag rug is an excellent labor preventive for the bathroom floor. A rug of this kind may be bought at any carpet store for a comparatively small sum. The advantage of this rug over other floor coverings is that it may be sent to a steam laundry at any time, and be washed for a few cents.

In addition to the rag rug, if, as is the rule in most households, the members of the family take a morning bath, I find it a great economy to provide two bath mats. While one mat is sufficient in warm, sunny weather, if there is a stretch of damp, cold weather it is quite difficult to dry one of the heavy mats in twenty-four hours.

Unless the mat is perfectly dry there is a musty, disagreeable odor about it which makes its use unpleasant. On account of this fact I always use two mats in rotation. This insures a clean, dry mat each morning. These mats, too, like the rag rugs, may be laundered at the steam laundry for about ten cents.

All of these details make the cost of keeping the bathroom in a spotless condition insignificant. And that they are well worth observing is obvious; for it is by taking care of these small details that the housewife saves much time, labor and money in the course of the year.

Flowers for Poor Soil

There are times when the amateur gardener, despite his efforts, finds that he has got but poor soil with which to work. In such instances he is often obliged to adjust himself to the circumstances. The best way is to plant those flowers that grow best in poor soil.

Of the perennials, the following are advisable:

Snapdragons.

Anthemis Kelwayi, a golden marguerite. 2 feet.



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Cupidone, or Catananche bicolor. White, daisy shaped, everlasting flower, with blue centers. 2 feet.

Cheiranthus Allioni. A small kind of orange wall-flower. 1 foot.

Foxglove. Rosy purple or white, for sun or shade. (Biennial, but resows itself.)

Gold Dust. Alyssum saxatile. 9 ins.

Columbines. Aquilegia hybrida, double and single.

Honesty, purple or white. (Biennial, but resows itself.)

The yellow Welsh poppy. Meconopsis. Cambrica. 1½ feet. (Biennial, but resows itself.)

Iceland poppies.

Wallflowers.

Of the annuals, the following are advisable:

Rose of Heaven, or Agrostemma coeli rosea. Pink. 9 inches.

Blue clover. Asperula azurea. Beloved by bees. 8 inches.

Pot marigolds. Caledulas, orange or yellow, double and single. 18 inches.

Calliopsis. Tall or dwarf, gold and crimson.

Candytuft. The common single, in white, carmine, lilac, or pink. 1 foot.

Clarkias. The singles are suited to poor ground.

Collin's toad flax. White or mixed. 9 inches.

Erysimum Perofskianum. Brilliant orange. 1 foot.

Eschscholtzias. All kinds and colors.

Mist flower, or chalk plant. Gypsophila elegans, pinky lilac or white. 1½ feet.

Miniature sunflower. These will flourish, but be smaller than on rich ground.

Letosiphons. Miniature plants covered by blossoms of countless hues. 6 inches.

Nasturtiums. Climbers for trailing, or else Tom Thumb varieties.

Shirley poppies.

Mignonette.

Winter Joys for Garden Folk

THE real garden enthusiast is not deterred by inclement weather. The regiments of winter may march into and devastate his gardens and lay siege to his very house, battering at the doors and windows. But, though the tools may have to be left hanging idle in the shed, and not a green leaf is to be seen except the cheery plants in the window, the joys of gardening are still available. Snug and warm, before an open fire if he is so fortunate as to live in the country, the true gardener continues to follow his hobby.

Now is the ideal time to get out all the back numbers of one's magazines, many interesting things in which had to be glanced over but hastily in the busy spring and summer days, and delve in them thoroughly at leisure. Even the things which one has read will yield a bountiful second crop of suggestion and ideas upon further perusal. I have made both a business and a hobby of gardening for

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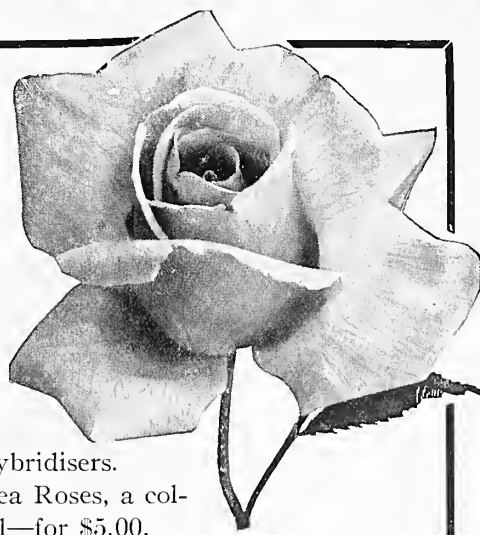
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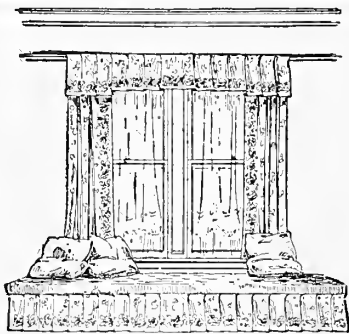
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many years; I aim to keep in touch with new methods, new varieties, new discoveries and new theories; but there is not a magazine among the scores in my files—stacked around three walls of the room, and too frequently, I confess, left scattered over table, chairs and floor—in which I cannot find information and suggestions in the personal experience of others. Gardening is a game that never ends and never loses interest.

And there are the books! Magazines we could not do without, but they can never take the place of books. No more welcome gift can be made to a friend who is interested in gardening than a good book on the subject. Narratives of personal experience are particularly interesting, but occasionally they are not genuine: the back-to-the-land faker is as much to be guarded against as the nature faker. But good books, both interesting and instructive and most attractively "gotten up," there are in plenty: and one can never give—or receive—too many of them.

SOUTHERN GARDEN DEPARTMENT

Conducted by JULIA LESTER DILLON

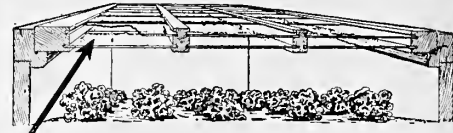
Inquiries and problems for this department will receive prompt attention. Please enclose a self-addressed stamped envelope for reply.

Shrubs for February Planting

THERE are many shrubs, both deciduous and evergreen, that may be put out at once and will give satisfaction from their planting. In general terms, all the shrubs that have finished their season of bloom, and all those that blossom late in summer or autumn, may be planted at this time. Only these are given here. There will be many cold days and colder nights in the months to come which will keep the leaf buds dormant while the root systems are being established, which will insure a safe passage over the hot, dry days of the summer.

The blossoms of the *Lagerstroemias indica*, in white and red and pink, may be safely counted upon for the summer months. The shrubby borderer may receive groups of the *Hibiscus syriacus*, the Rose of Sharon, or altheas, as we usually call them, in both the dwarf and tree forms. If these shrubs are planted in masses of known colors they are very effective and attractive at a time when there are few other flowers in bloom.

The *Loniceras*, *Rhodotypus kerrioides*, *Berberis Thunbergii*, with the *Viburnums*, *opulus* and *lantana*, form another group of late spring and summer-flowering shrubs. The sumacs, *Rhus glabra* and *Rhus copallina*, which bloom in August, and the *Rhus cotinus*, which gives us a cloud of purple mist among its branches in June, are all desirable and hardy. For the golden yellow that is rarely found in the summer-flowering shrubs we may plant *Hypericum moserianum*, which is almost an evergreen in this section.



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The *Hydrangeas* of all varieties are evidently considered most desirable summer bloomers, judging by the extensive plantings which we see on all sides. They are attractive, if properly placed and grouped, but the usual planting is neither good nor attractive. They require a deep moist soil and prefer a shaded situation. They should be grouped in masses against an evergreen background where the closely-pruned stems will not be obtrusive in winter, and in this position they are dependable for fine summer results, even though the leaves droop at midday from the heat. Usually they are in prominent places without proper background, and consequently for more than half the year they are unsightly. They do not mix well with other plantings. The white *Hydrangea paniculata grandiflora* and the *Otaksa*, in pink and blue, with the creamy *Hydrangea quercifolia*, are good deciduous plantings for large places, where striking effects can be obtained for a season and lost sight of later on.

As delicate of foliage as the hydrangeas are coarse are the feathery tamarisks, which are much like the cypress in leaf. Their color is a dainty glaucous green, and with the fern-like form of the leafage, and the foamy blossoms of palest pink, are exquisitely dainty and beautiful. The *Tamarix hispida aestivalis* is considered the finest of all and blooms from late spring through the long summer. This, with the *Tamarix gallica*, may be planted now. The other varieties bloom earlier, and it is too late to put them out, but all are attractive and satisfactory if planted among the heavier-leaved groups and given the moist soil of either sand or loam that they like. They do well at the seaside also, as the saline or alkaline soils seem to suit them.

Of strikingly different form and evergreen are the *Yuccas*, which are being more and more planted throughout the South, perhaps because they are so easy to grow. The varieties, *Yucca treculeana* and *Yucca filamentosa*, are very stately and lend an air of tropical luxuriance to the garden. They are effective both in leaf and flower.

Among the broad-leaved evergreens that bloom in the autumn are the heavenly sweet oleasters, *Eleagnus macrophylla*, and the bronze oleaster, *Eleagnus reflexa*. If only for their fragrance they should be found in every garden. These, with the *Eriobotrya*, the Japanese loquat, bloom in October, and perfume the air for a wide circumference with their delicious odors. The *Olea fragrans* and *Osmanthus aquifolium*, the tea olives, are also wonderfully fragrant and fall-blooming varieties of these evergreens. A little later than the oleasters we have the blossoms of the Assam tea plant, the *Thea Bohea*, which is truly a tropical shrub. This is not as well known as it should be, for it is really quite a decorative plant at all times and in the blooming season most attractive. The petals are pearly white, either four or five

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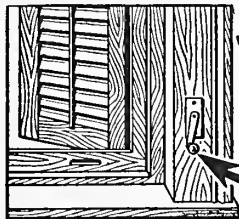
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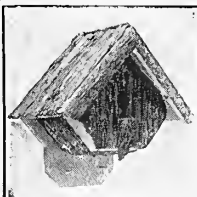


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in number, and like the orange blossoms in texture but larger in size and with masses of yellow anthers in the centers. These flowers, closely studded along the stems among the deep green leaves, make a very striking midwinter garden picture. About twenty miles from Charleston these teas are grown for commercial use and are a successful experiment of foreign plant introduction. From this point and south along the Gulf Coast they are perfectly hardy. This is almost a Christmas flower.

Other Christmas greens that should be planted are the hollies, which should always be closely associated in groups that include both the pistillate and staminate kinds. The familiar American holly, *Ilex opaca*, is not more attractive than the *Ilex aquifolium*, the European holly, and the Chinese and Japanese varieties, *Ilex cornuta* and *Ilex crenata*, with the *Ilex glabra*, the native winterberry or inkberry, are all good and hardy garden plants. The tree hollies should, of course, be used for background and border plantings or as a screen. They are of a beautiful light green color that contrasts most strikingly with the foliage of the darker-leaved plantings. A Southern lawn in its winter dress of bright velvety green framed in a border of the American holly, with vivid green leaves and bright-hued berries, is a winter picture that is beautiful and striking and well worth working for.

The two *Leucothoes*, *acuminata*, the well-known "Ti-Ti" or pipewood of South Carolina and Florida, and the *Leucothoe catesbaei*, are graceful and attractive both in summer bloom and in winter garb of shiny, glossy green leaves and showy scarlet berries that are used extensively for Christmas greens.

Of the summer-blooming shrubs we have the *Magnolias* and the *Neriums*. The latter, both in single and double, in all the shades of pink and in the white are among the most beautiful and desirable of our broad-leaved evergreens. The pink varieties are much more delicate than the white kinds. Galveston is known as the Oleander City, and along the Louisiana bayous they are planted only where a dense and tall evergreen screen is needed. In the cooler sections they are not so vigorous, but they are beautiful whenever and wherever found.

For the lower shrubbery groups the *Gardenias* are most popular. They should have a fertile, loamy soil, and if the season is very dry they require much water if they give the full return of bloom. *Gardenia jasminoides* and *G. jasminoides fortunei* are the standards. In the older gardens these plants have attained tree-like growth and are magnificent.

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In the small greenhouse which is not divided by a partition into sections where different temperatures may be maintained, it will pay to rig up a simple propagating frame in which to start cuttings and those seeds that need a higher temperature than that maintained in the main house. A further advantage of such a frame is that the air within it may be kept at any desired degree of moisture. A hotbed sash or one or two ordinary windows or storm windows, if available, will serve for the roof of such a frame. An upright at each end, with a cross beam between them, to which the sash or window may be secured by a couple of hinges with ends of wood or glass, will be all that is required. If this frame is constructed so that air from the heating pipe can get into it from the bottom, a difference of 5° or 10° in temperature above that outside of the frame can be easily maintained.

D'you remember "Cloverly and The House Next Door" that was published in the May HOUSE AND GARDEN last year? It was months and months back, but people are still writing us letters about it—people who love their gardens and were caught with the fugitive charm of this article. For next month, Fanny Sage Stone has written another article—"The Old Ballard Place"—the story of a garden that was rejuvenated in the heart of a city. It is even more delicate and kindly than was "Cloverly." You'll like it.

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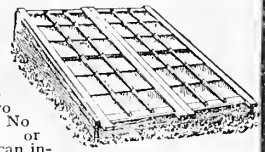
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are known to feed on wireworms (either the larvæ that do the damage or the adult beetles) are the following: Bobwhite, flicker, mourning dove, ruffed grouse, crow, whippoorwill, California quail, cowbird and bobolink. Beside the above, certain hawks, cuckoos, woodpeckers, phœbes, fly-catchers, jays, blackbirds, orioles and sparrows, help the farmer in protecting his grain from the undesirable wireworm.

While the wireworms, when they do most of their damage, are merely grubs measuring from one-half inch to over three inches in length, they are more readily recognized when grown into adult beetles. These beetles are known in certain localities as "click-beetles," "skip-jacks," "snapping beetles," etc. These names are all derived from the beetle's habit of snapping the fore part of the body when placed upon its back or held between the fingers. The worms that do the damage are usually yellow or reddish-brown, with three pairs of short legs near the front of the body.

The term wireworm is sometimes misapplied to the larvæ of another group of beetles. The meal-worm, which feeds upon stored products in warehouses and granaries, is one of these false wireworms. The beetles of this group of insects do not snap the fore part of the body as do those of the true wireworm.

The true wireworm, economically, is one of the five worst pests that attack Indian corn. It is amongst the twelve worst pests attacking wheat and oats. With the exception of the cotton and corn wireworm, these insects begin their attacks immediately after seeding time, when they attack the seed, eating out the inside and leaving only the hull. When they are very numerous they often consume all the seed, making reseeding necessary, and in severe outbreaks a second reseeding is sometimes made before a stand is obtained. Aside from the extra labor and cost of the seed, this delays the planting of the crop, and if it be corn, in the Northern States the season is too short to mature so late planted a crop, and, except for the fodder, it is a failure. Where wireworms are present, even in very small numbers, corn will make a poor stand, which will necessitate the planting-in of missing hills. In some regions where these insects are quite numerous it is customary to sow three or four times the amount of seed that would normally be necessary in order to get a good stand.

The only remedies which have actually proved to be of practical value in combating any of the wireworms are cultural methods. Even these in a number of cases have not proved entirely satisfactory; however, they are preferable to such apparently ineffective means as endeavoring to kill the adult beetles by poison baits, drying the seed to prevent its being eaten by the insect, or the introduction of poisons into the soil.

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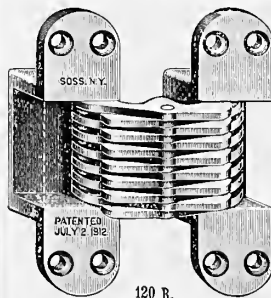
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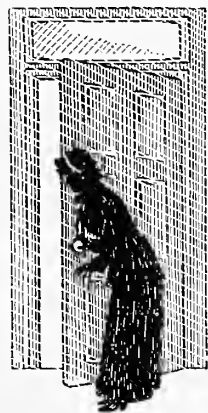
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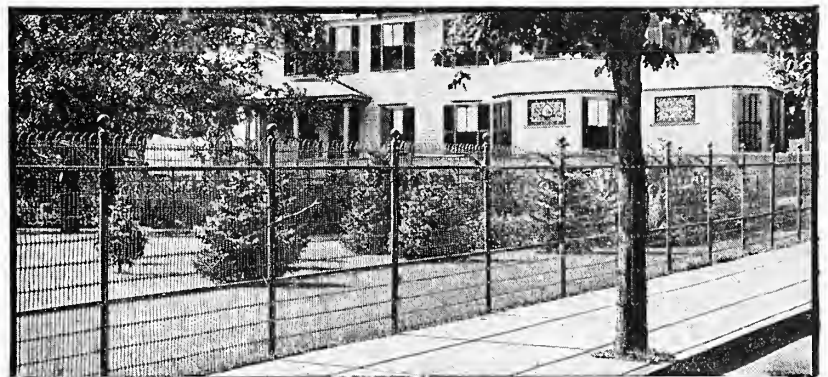
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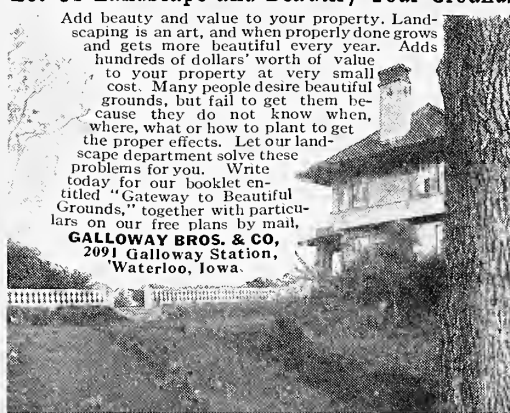


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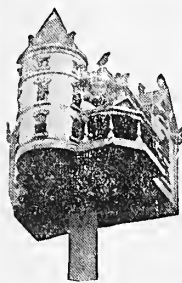
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The wheat wireworm measures, when full grown, about an inch in length, and it is about as thick as the lead in a pencil. Its adult is a small, brown beetle only about one-quarter of an inch long. This is the most common wireworm of the Northeastern and Middle-Western States.

The wheat wireworm is normally a grass feeder, living on the roots of sod, and, with the abundance of its natural food supply, producing no appreciable disturbance in the meadows, but when the sod land is broken these wireworms concentrate in the drill rows or hills of corn, the usual crop to follow sod in the Eastern United States, and often produce absolute failure of the crop by destroying the seed and eating off the roots of such plants as may germinate. This species is usually more destructive, therefore, on land recently broken from sod.

To combat the wheat wireworm, the Department's specialist recommends plowing sod land immediately after the first hay cutting, usually early in July, when the land is intended for corn the following year. This land should be cultivated deeply throughout the remainder of the summer. Land that is in corn and badly infested should be deeply cultivated, even at the risk of slightly "root-pruning" the corn. This cultivation should be continued as long as the corn can be cultivated, and as soon as the crop is removed the field should be very thoroughly cultivated before sowing to wheat. In regions where wheat is seeded down for hay any treatment of infested wheat fields is precluded. Where wheat is not followed by seeding, the field should be plowed as soon as the wheat is harvested.

Thorough preparation of the corn seed bed and a liberal use of barnyard manure or other fertilizer will often give a fair stand of corn, in spite of the wireworms, a vigorous plant often being able to produce roots enough to withstand the depredations of several wireworms.

The wireworms that attack corn and cotton are not hard and wiry as are most of the tribe, but soft and elongated. When full grown these grubs are about an inch in length, but scarcely thicker than pack thread. Unlike most of the Eastern wireworms, which are usually most destructive in damp, low-lying fields, these insects seem to be far more numerous on the higher parts of the fields in light, sandy soil. These wireworms are among the most troublesome species of the Southern States. Investigators are, as yet, unable to recommend definitely any cultural method, but it is probable that something in the near future will be shown to be effective.

As these worms are of three different ages in most infested fields, and as only about one-third of these will be in the pupal stage each year, it is evident that the first year of this practice will not show startling results. However, if the practice is continued for a couple of years it will undoubtedly reduce the number of these pests very considerably.

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"The prisoner on being arrested in his hotel had in his possession a doctor's book apparently empty. This was found on inspection to contain two leaves stuck together. In the middle were sentences and figures—a code which had subsequently been deciphered by a process of subtraction from the A. B. C. Code.

Prisoner was sentenced to 18 months' imprisonment. He had already been 105 days in custody since the time of his arrest.

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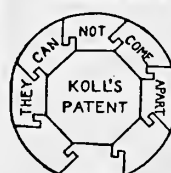
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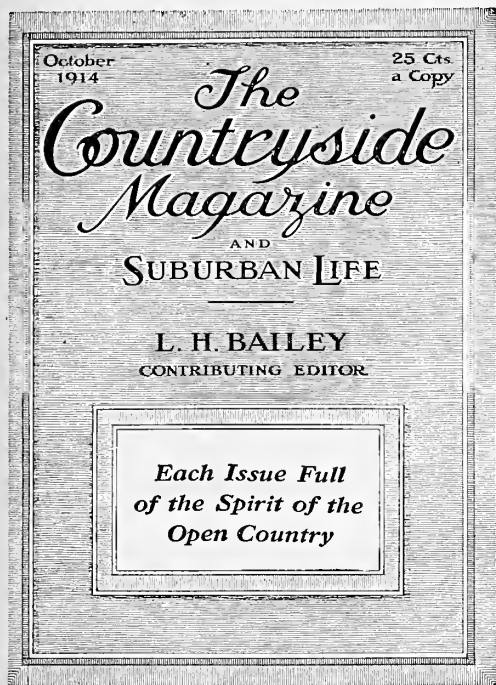
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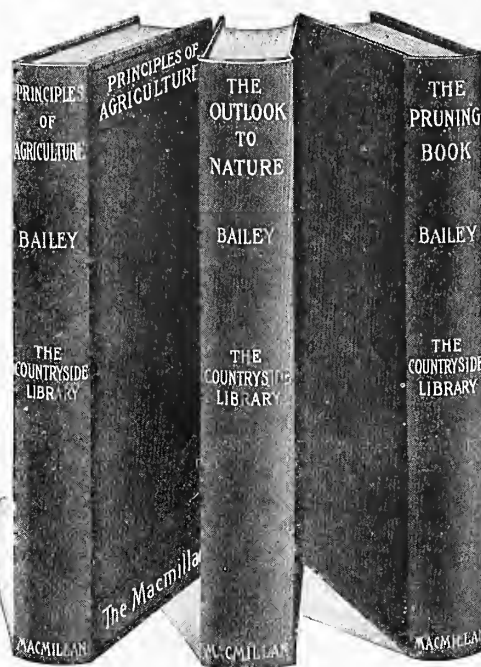
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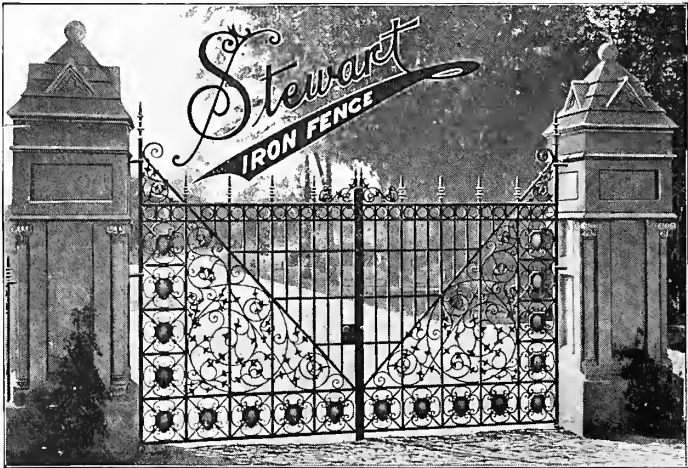
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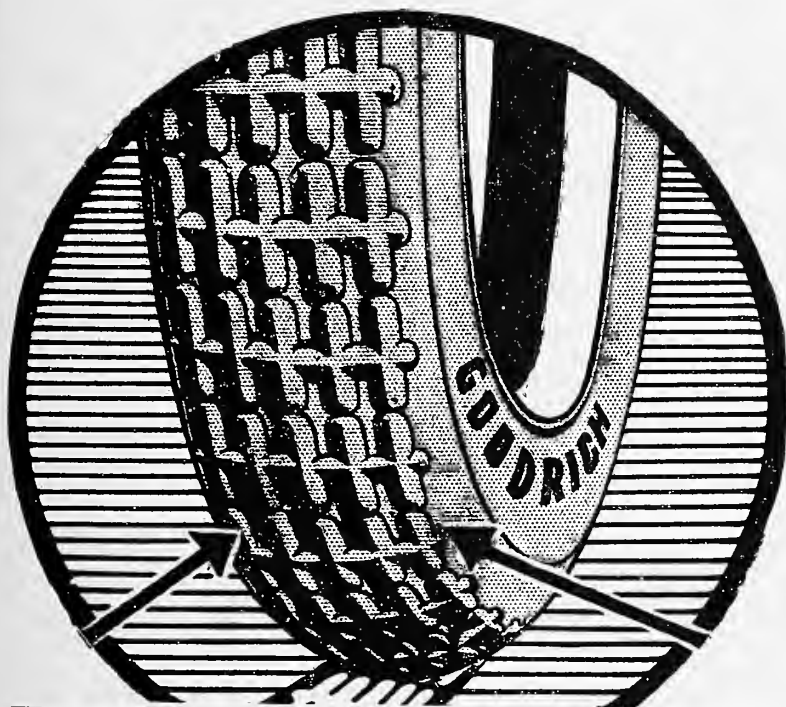
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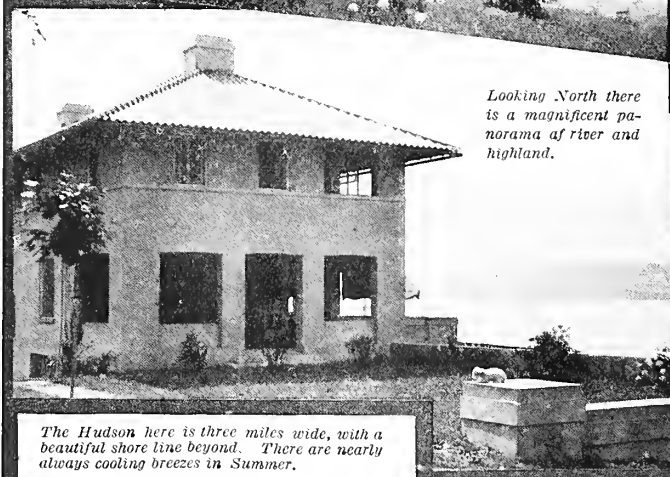
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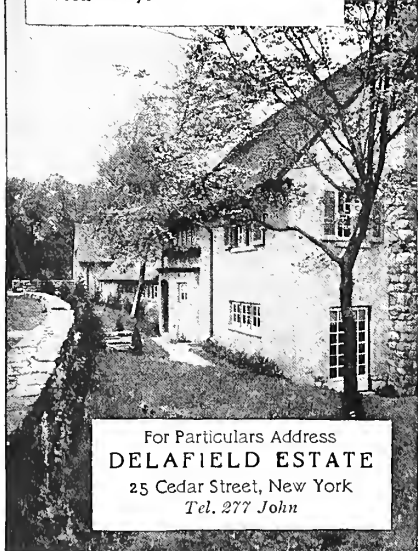
¶ The house has pretty nearly every convenience known to modern architecture—two duck floored sleeping porches, a dining porch with red tiled floor, an owner's suite (of two rooms, sleeping porch and private bath), a linen room, laundry chute, casement windows and full length glass doors leading to porches. The main entrance is very interesting with a red tiled terrace over which is a charming vine covered pergola. Altogether there are thirteen rooms and four bathrooms with hot water heating, open fire places, electric light and gas.

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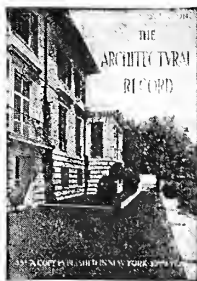
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Dosing the Dog

IN these columns and elsewhere I have always advocated common sense and exercise as the two medicines which are most valuable in keeping a dog in good health. Yet, inevitably, in the case of almost every dog, there will be occasions when some simple remedy of more concrete form must be administered in order to relieve a condition which can be touched in no other way, and here a knowledge of a few of the "tricks of the trade" will save considerable trouble.

When most people decide to give a dog medicine they try to pour it down his throat as if he were a hungry child. Towser, however, is constituted differently



Introduce the medicine at the rear of his mouth

from Tommy, so most of the remedy seeks the floor and the doctor's clothes in its efforts to escape from the sufferer's unwelcoming mouth. The proper method is to kneel with the dog sitting between your knees with his back to you, and introduce the medicine at the rear corner of his mouth, pouring the required dose from a small bottle for the sake of convenience. Hold the dog's jaws firmly together and pointed skyward, and when the medicine is in his mouth loosen your grip a little; he will at once swallow, and the trick is done.

Medicine in solid form, such as pills and capsules of various kinds, can be given in one of two ways. If they are small and the dog is hungry, conceal them in little balls of bread or meat and they will reach their destination without delay. If the pill is large or the dog in such a condition that he will not take food readily, it becomes necessary to adopt a different method. Kneel over the dog as before, open his mouth with one hand over his upper jaw, and with the other place the pill well down

(Continued on page 147)

March Poultry Work

MARCH is altogether the best month in the year for the amateur to begin hatching, whether he be using an incubator or hens, although the third week is early enough when the eggs have come from the hens of the smaller breeds, like the Leghorns and Anconas. In all hatching, much depends upon the breeding stock, and it is better to buy one's eggs or to purchase day-old chicks than to incubate eggs laid by hens which have been kept in close confinement all the season.

The man who lives on a town lot, with only a back yard available, can get just as many eggs from a flock of good hens as the professional poultryman with acres of land for his birds to range over, but when spring comes the hens will be in no condition to breed from. The best plan for the amateur so situated is to renew his flock every season by the purchase of either setting eggs or day-old chicks, taking care to get them from reliable breeders who have their birds on free range much of the time.

It is perfectly feasible for the man who seeks only to keep his table supplied with fresh eggs the year around to adopt the no-yard system, his hens being confined to roomy, open-front houses at all times. Of course, there is no reason for keeping a male bird then, and the neighbors escape what might otherwise be a local nuisance.

When hatching eggs laid by one's own flock, it is important to remember that very much depends upon the male. It is necessary that he should be full sized, well formed and vigorous. Vitality is the first essential in both the male and the hens. And heavy-laying pullets cannot be expected unless the head of the flock came from a heavy-laying strain of birds. It is considered a good plan to breed a two-year-old cock with pullets, or vice versa, and often there are two males, which are allowed to run with the hens on alternate weeks.

Poultry lice are likely to be much in evidence this month, and it is important to keep them in subjection. Most active hens will keep themselves reasonably free from body lice if they have a good dust bath, but they are entirely at the mercy of the red mites, which suck their blood at night and retreat to the under part of the perches or to cracks and crevices in the walls before daylight comes. The common practice of poultry keepers is to spray or wash the perches and surrounding walls with kerosene at frequent intervals, but there are preparations on the market which are applied with a paint brush, and one application of which will keep the red mites away for three or four months.

Usually the roosters need to be dusted with insect powder occasionally at breeding time, for they are prone to neglect the dust bath, however convenient it may be, and often become badly infested.

When only a few chickens are to be hatched the amateur is likely to use a set-



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ting hen or two, in the good, old-fashioned—if somewhat bothersome—way. In that event it is advisable to hatch all the chicks at one time, if possible, in order to do away with the bother of caring for broods of different ages. And here again it is necessary to make free use of lice powder, for a setting hen requires an application at least once a week, being held up by the feet and the powder thoroughly worked into the feathers, especially under the wings and around the vent. Hundreds of hens have died on their nests simply through neglect of this precautionary measure. Decided lack of intelligence on the part of the hens is indicated, of course, but they must suffer torments.

The nest for a setting hen should be low enough so that she can walk into it. She has to run a risk of breaking the eggs when she jumps in. The properly made nest is ridged at the sides to keep the eggs in, but flat on the bottom, in order that the eggs may not roll to the center. It should be shaped like a pie plate, rather than a bowl.

When brooders are to be used they should be ready by the time the chicks are out of their shells. Of course, brooders are necessary when incubators are used, and some people who hatch with hens prefer brooders for raising the chicks. Probably the portable hovers are most convenient for the amateur as they may be set up anywhere under cover, and are very easy to manage. At this season of the year they are quite as dependable as any kind. Outdoor brooders may also be used for chickens hatched as late as the latter part of March, but a hover in a colony house is preferable, for when the chicks are large enough the hover may be removed and the house will serve for a coop.

As soon as the ground in the poultry yard is dry enough it should be spaded over, if the amount of space is limited. Small yards soon get very foul, and poultry cannot be expected to thrive in them. Sometimes it is necessary, and even desirable, to scrape off an inch or two of the surface soil and to cart on fresh earth. Some amateurs find it convenient to use a wheel-hoe for breaking up the soil in the poultry yard.

March is a good month to clean out the poultry house if the weather becomes settled sufficiently to allow the hens outside. A thorough cleaning once a year is most advisable, and conditions are often improved by giving the interior a coat of whitewash. It is better to keep the hens confined, though, so long as the weather is wet and the ground cold, except for occasional excursions in the middle of the day. If the hens wade around in puddles they are certain to bring much water into the houses and get the litter damp.

If ducks are to be raised, this is none too early to set the eggs, although the hatching of Indian Runners can run over into April. Usually the eggs are very fertile in March and good hatches may be



expected. Pekins are the ducks to raise for meat, but Indian Runners are the heavy layers of the duck family and the eggs are excellent for every purpose. Just before Easter, duck eggs sell in the market for from ten to twenty cents more than the price charged for eggs laid by hens, but after that date the price drops.

Dosing the Dog

(Continued from page 144)

his throat at the base and on top of his tongue. Now close his jaws, hold them so with the left hand, and rub his throat up and down with the right. This will cause an involuntary gulp or two, and down goes the dose.

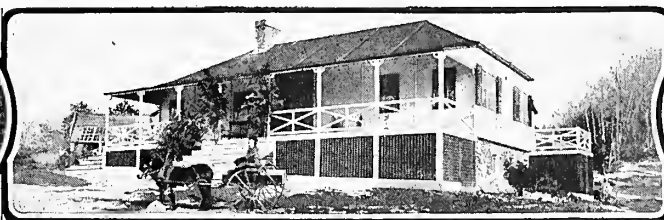
In all cases of administering medicine the dog's head must be held firmly to prevent his jerking away. A few remedies are so prepared that a dog will swallow them for the pleasure of it, but the great majority of standard medicines are distasteful and must be given against the patient's will.—ROBERT S. LEMMON.

THE PRACTICAL BOOK OF OUTDOOR ROSE GROWING. By George C. Thomas, Jr. J. B. Lippincott & Co. \$4.00.

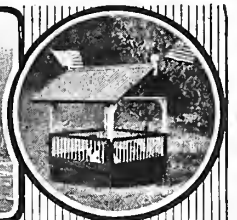
The trouble with many of the so-called "practical" books is they are practical only to those who have a knowledge of the subject beforehand. But in this large volume by Mr. Thomas the story of the rose and its culture is so simply handled that it proves a mine of information for both the informed and the novice. There are numberless half-tone and color reproductions—the latter remarkable work—that serve both to make the volume sumptuous and the reader envious. The arrangement of information is best shown by the chapter heads: "The Propagation of Roses," "The Best Varieties, with Their Characteristics," "Climbers," "Location and Preparation," "Ordering," "Planting," "Pruning," "Cultivation," "Some General Information and Hints on Hybridization," and "Index." For those who wish to pursue further the study of the rose, the author gives the names of other authorities on the subject, and the dealers in the various varieties. It is difficult, indeed, in so short a space to give appreciation of any one part of the book; though mention must be made of the sane way Mr. Thomas has selected his "Sixteen Best All-Round Roses."



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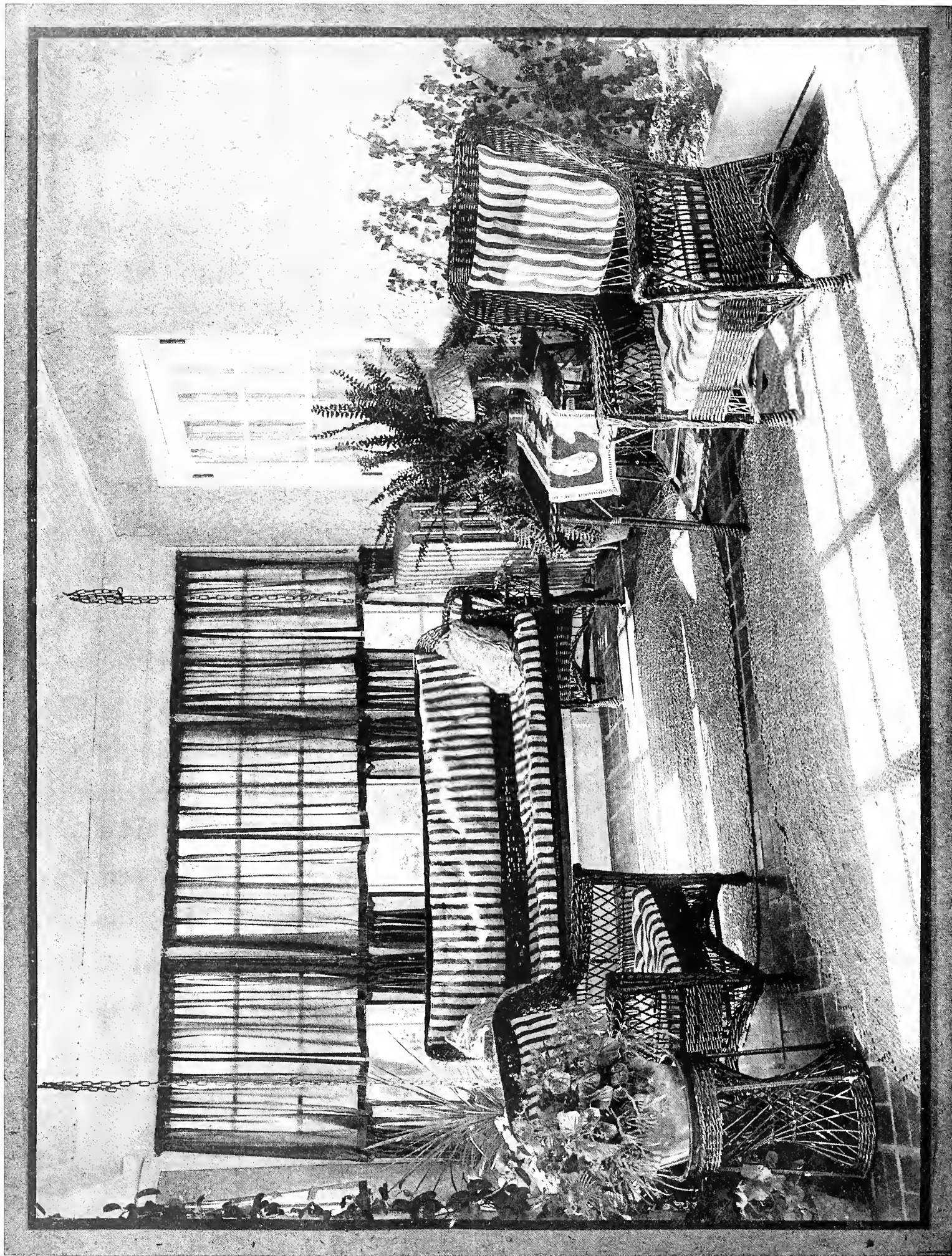
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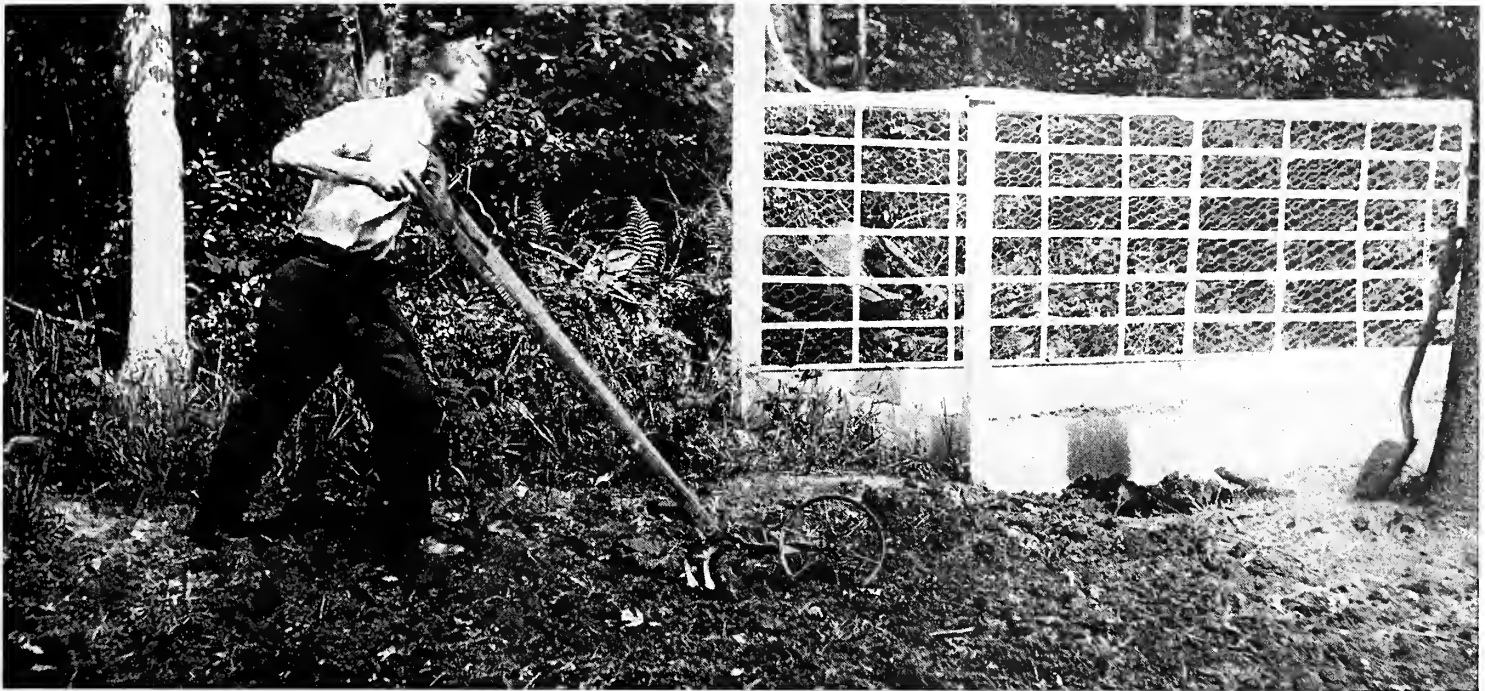
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Early spring work is cut down by half if a wheel-hoe is used. Harrowing is made easy—after plowing with the wheel-hoe plow the clods are broken up by attaching the cultivator tool

My Suburban Garden

STAKING OUT A CLAIM IN A YOUNG FOREST—DREAMS AND DISILLUSIONMENTS—THE TOOLS FOR QUICK WORK—THE MYSTERIES OF THE WATER TABLE—SUCCESS IN A WHEEL-HOE GARDEN

WARREN H. MILLER

Part I—Taming the Wilderness

FROM the beginning of things I believe I have been a born farmer, which is a very different thing from being born a farmer; for I was raised in a fine, old Colonial town where everybody owned a big place, ten to fifteen acres; gardened, lawned and hedged, every foot of it under cultivation—a very different thing from the average farm. Land was cheap in those days, and living was cheap, so that people of moderate means could easily own a big place and raise enough on it to keep a man who did the gardening, looked after the horses and carriages, etc., in return for his rent of the cottage and one-third the product of orchard and vegetable garden. Ours was one of the smallest of these places—four acres—yet, even we kept an old dorker, who lived in the cottage at the foot of the third terrace, and was given his rent and the cultivation of

that terrace in return for general gardening of the place and care of our stock. My particular job was the chicken and pigeon establishment, also all our hunting dogs, besides doing part of the weeding and planting of the vegetable garden, and I look back

in wonder to-day at the efficient way in which those trusts were administered, for a boy of twelve; to say nothing of the numerous side-lines of my own—rabbits, guinea pigs, an aquarium, a reptile den—Lord knows what all—white rats and mice, too, if memory serves me correctly!

Then, as I grew to manhood, came five years in Europe and fifteen years' pioneer construction work as an electrical engineer, living in rented houses on small plots of ground, so that one hardly had time to accumulate so much as a dog before new construction work necessitated moving again. But the yearning for a place of my



In the original garden nothing but potatoes would grow, because it had been neither limed nor drained



When preparing the raw soil for planting in a small garden, the first operation is to lay a main drain beneath where the path is to run. If the water table is right, it will be permanent

besides, which immediately makes the country place an expensive luxury, instead of a self-sustaining property. I foresaw that I would have to do all the gardening myself, and that, too, in the scant spare time permitted to a busy commuter; so I estimated that about an acre was all I could manage properly. And, as this acre was wild forest, which had to be cleared and tamed, I started on but one-third of it, leaving the rest in park for future years.

It's a heartrending business, this cutting down beautiful forest trees, but it has to be done if you are going to find room and sunlight for a garden and fruit trees. The diagram shows the original layout of house, barn, garden and shrubbery. We left about twenty-five forest trees on the place—four of them on the garden site—as I did not believe at the time of planning that the sun has a very different declination in winter than in summer, and I had read somewhere that the sun's declination was 20 degrees, so I concluded that the shadows of these trees would fall back of the garden on the forest. This theory the sun seemed to amply uphold—in February—for, even at mid-day, it seemed

hardly over the southern horizon. As a matter of fact, in midsummer the shadows of these trees fell directly below them at high noon, robbing the plants beneath of their sunlight, and I took all of them out the next year.

I did not realize that much of my boyhood success came from excellently prepared soil, well drained, well mellowed and well fertilized. This had all been done by my elders, leaving me nothing but planting and fighting weeds to insure success. In reality, my forest soil, even after stumping, clearing of roots and adding a thin top-dressing of field soil, was as sour as untold centuries of shade and forest leaf-fall could make it.

own, such as I had enjoyed as a boy, would not be stilled, and when I finally settled down, I determined that my three boys would have the same sort of big suburban place to grow up in as I did.

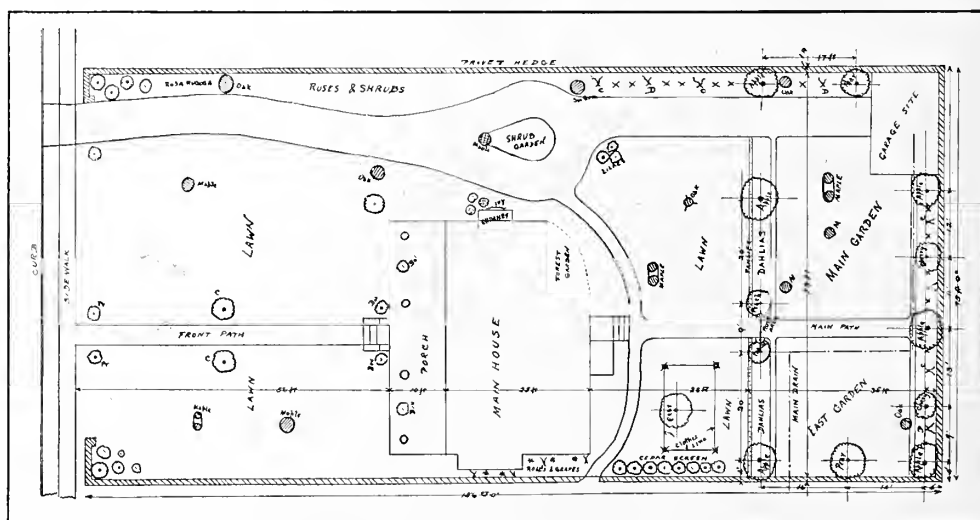
Alas, but the country had changed in those twenty years! In my native town, as in thousands of them like it near big cities on the Eastern seaboard, those fine old estates had all been cut up by the real estate men into little 50 x 100-ft. lots, with scarcely breathing room between the houses. Even the Governor's mansion, with its twenty acres of gardens and grounds, was now reduced to a bare two hundred square feet of land; Van Wyck house, with its noble avenue of pines, its box gardens and stately lawns—swept away utterly, not a trace of it to be found. The Kearney place—trying to look smug and respectable on fifty feet of front for all its sprawling, one-story ways; our own place—what! was this it! this big, high-gambrel roof, flanked closely by squat, "Queen Anne" cottages of nondescript architecture?—It was to weep!

After much search, I found a place 50 miles from the city, on the Atlantic coast, in a fine, hardwood forest, where a development company had put through a magnificent road system with cement sidewalks, water, gas and sewer.

Labor conditions had also changed since my early garden days. No longer could you put up a small house and get a man to live in it and garden for you for a percentage of the total and his rent. Now they want all this and wages



To determine the water table height, the bottom of the drain should start a foot below soil level. Note the sub-surface water level. This seepage should be run off to avoid soggy soil

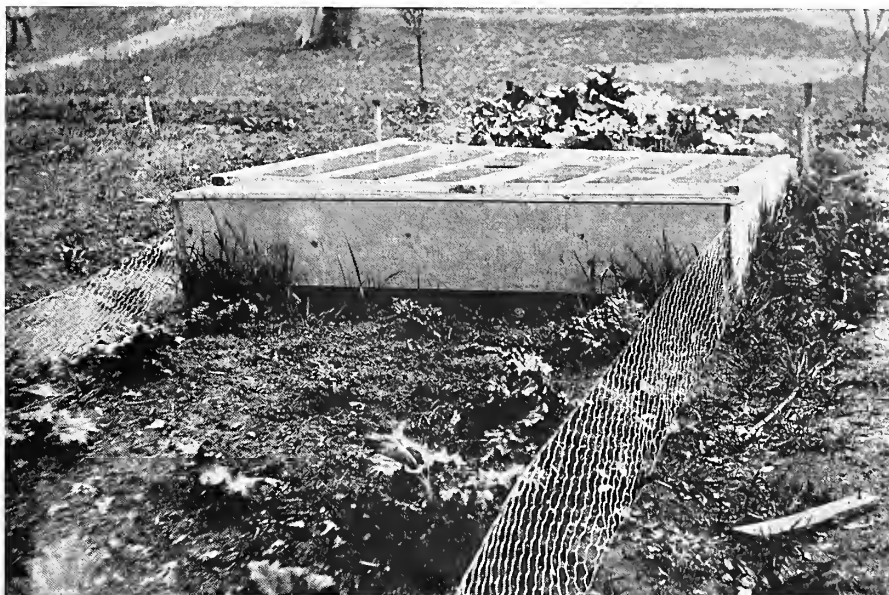


The original vegetable layout had too much of everything and not enough of anything. The plan shows the feasibility of a wheel-hoe garden

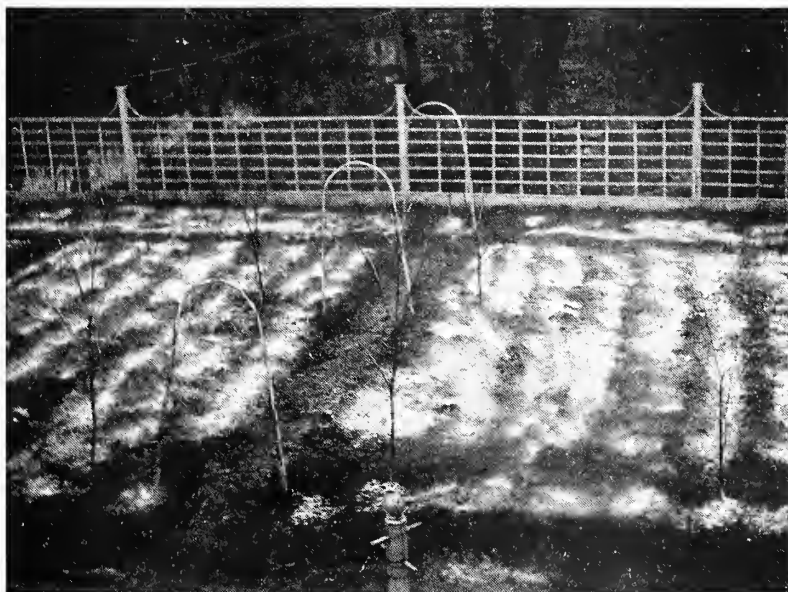
To me it looked rich and black, needing only drainage to produce a fine yield.

The first big February thaw, with its multitudinous puddles, showed me where the low spots were, and I filled most of them with furnace ashes and field soil. The garden was 35 x 75 feet, capable of feeding five people all summer with green vegetables and fruits if managed rightly. I first trenched and drained it, using about 100 feet of terra-cotta inverted U tile laid on boards in the bottom of the trench, with straw over the joints. The reason for this straw is to catch and hold the silt, which is carried along by the muddy water to the drain and dropped along the plank, thus blocking it. A great deal of it washes through the cracks in the tile joints and catches in the straw. If you put these inverted U tiles directly on the bottom of the trench without the boards underneath, your drain will soon be filled up with silt, and in a year or so you will have to dig it up again. The best material for the bottom board is pitch pine, because of its durability.

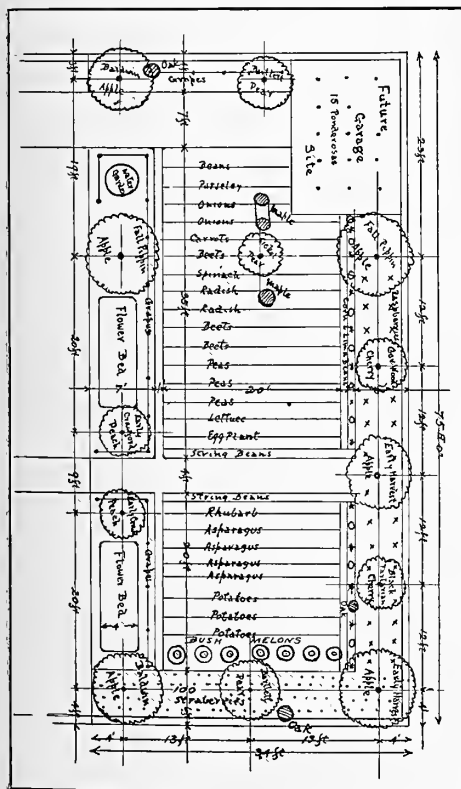
This drain carried off all surface water very efficiently, but still the garden was soggy and wet. My water table was not low enough. Now, I had read, vaguely, of water tables in agriculture papers, but I never thought of one as a hostile factor in my own garden. The water table may be defined as the prevailing height of water in the soil all over a given section of land. If too high, put your drains lower. I could not put my drain any lower, for its outlet was already at the lowest available exit from the garden, yet the water table was only about four inches below the surface



The first thing out of the ground: rhubarb in April. It wants the richest kind of soil and a low wire screen to keep out dogs and children. Sixteen roots planted at each end of the hot frame sufficed for a family of six



Liming the soil to cure acidity. Five hundred pounds of bone meal and land plaster were spread over the garden in March, following as nearly as possible the future lines of planting



The original layout of house, barn, garden and shrubbery. About twenty-five forest trees were left on the place, four of them on the garden site making too much shade, as was later discovered

of the soil. A spade thrust any lower would turn up wet, soaking, sandy loam. Now, the capillary action of soil will draw water up at least four inches above the water table, so my soil was always wet, even in bright sunlight. The only way out was to raise this water table by putting on more fill. This seemed an expensive proposition, so I decided to leave the soil as it was, in the hopes that summer would bring drier conditions.

to get to bearing, will give bushels of apples to your dwarf's dozens. The same is true of pears; the dwarf will begin to bear in two years (one pear!); the third year it may have three pears on it, and the fourth, a dozen. The standard will not bear at all until the fifth year after planting, starting with a two-year, 8-foot nursery tree, but then it will give a dozen for a starter, and from that time on will beat the dwarf five to one in yield. Standard pears should set on at least 20-foot centers, but in a garden like this they will do well enough as fillers between the apples.

For selection of varieties I had no literature available, and there were no orchards near me, but in general, for light, sandy soil, Baldwin (red, winter), Early Harvest (yellow, summer), and Stayman's Winesap (red, striped, fall) are good garden selections.

All peaches do well in light soils, so your choice will be mainly for a succession of ripenings throughout the peach season—Early and Late Crawford, Elberta, Ray, etc.—and in this garden I have had very good success with Governor Wood and Black Tartarian cherries. All these were two-year, 7- and 8-foot trees. (Continued on page 199)

Meanwhile I had ordered a large box of privet, apple trees, pears, peaches, cherries, berries and grapes, and they now arrived from the nursery. I chose standard apples on the corners, with dwarf Bartlett pears in between, two peaches flanking the garden gate, and two cherries along the back as fillers between the apples. These latter should go on 35-foot centers if standard, whereas dwarf trees require but 15 feet of room; while it takes longer

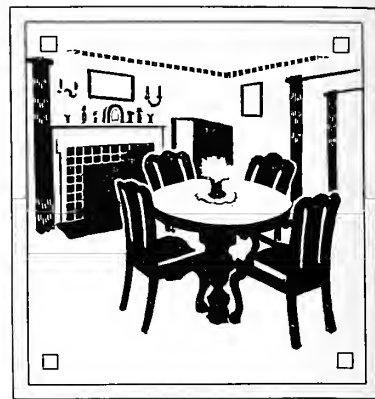


Distinction in Dining-Rooms

THE PERIODS THAT CAN BE MIXED—GENERAL RULES FOR MAKING THE ROOM A CHEERY PLACE—WHAT TO AVOID—AND A NOTE ON BREAKFAST-ROOMS

MARY H. LIVINGSTON

Photographs by Jessie Tarbox Beals



IN planning a dining-room of distinction there are three points to be considered: tradition; demanding and impressing one's personality through this tradition; and suiting one's means to one's choice. It cannot be the composite of various unrelated styles, nor of the unorthodox *nouveau* art—futurist and what-not new invention. We must feel conscious of a certain co-ordination in planning. Without co-ordination such a dining-room, although it be wonderfully clever and pleasing, may still lack distinction.

In a traditional room is immediately created an air, a spirit, something that responds to the background of our own experience—be this experience in a New England home, a Southern mansion, villas and cottages abroad, or be it merely a result of visits to our shops. People may protest against a period room, saying: "Why should I limit my choice of furnishings to designs produced between such and such a year? It hampers my selection." Such a person does not understand what the periods are. There is not standard of scale or universality of spirit

running through the periods, and hence they cannot be mingled successfully. You cannot put American Colonial with French furniture of Louis XIII, because one is light in scale and domestic in spirit; the other heavy in scale and majestically ponderous in spirit. It is not a matter of dates, this incongruity. By the consistent use of a period style, formality and restfulness, plus cheeriness, create the desirable dining-room.

To many of us, and particularly to men, dining is the high spot of the waking hours. A good dinner works the daily miracle of a man's existence. Let the dining-room have restful spaces, comfortable chairs, adequate table-room and the elimination of an over-loaded sideboard and ostentatious china closet. Let the walls be light in tone. Let there be enough light to eat by. Women are apt to light a table insufficiently—a soft, becoming glow from shaded candles. Men, with little or no concern for their wrinkles and graying hair, have a less impelling esthetic sense. So, if possible, have side wall fixtures, which, with the candles, will give sufficient light. If side fixtures are not feasible,



In summer, the dining-room can be made an adjunct to the porch if there are French windows. As here, the spirit of Colonial days should be carried out in mantel, hangings and furniture

use a center drop light with a flaring Empire shade of soft-toned silk bound with heavy fringe, toned with the color of the walls, making it as unobtrusive as possible. Have the light hung high enough so that the diner can see his *vis-a-vis*, but deep enough to prevent the electric bulbs from glaring into his eyes. If a central gas fixture has to be considered, use flaring white porcelain shades, and over these silk shirred shades of a warm tan or old rose. These throw the light down upon the table and give to the room a soft, pleasant glow. If preferred, candlesticks of silver or copper with shades or shields may be used on the serving-table or sideboard. In country houses there is often neither gas nor electricity, and in such a case small twin oil lamps with old-fashioned glass shades, or sconces for candles, are attractive and serviceable. The main thing to avoid is a large oil lamp in the center of the table or an electric hanging fixture with glaring green or red-glass shade. This unpleasant feature spoils more dining-rooms in the modern apartment than any other, I believe. It is almost always out of proportion and usually dwarfs the room. Why should it be tolerated when at a slight expense it can be removed and a tasteful substitute made? This matter of good lighting fixtures I have spoken of at length because it has to do so much with restfulness.

It is best to have no more furniture in the dining-room than is necessary. The table, enough chairs for family and guests, and a serving table. An open fire is pleasant, and the English habit of having a little coal fire to greet one in the morning is particularly conducive to starting the day aright. If there is a fireplace in the room, have the fire laid before the meal. In so many rooms boasting this distinctly sociable feature the fireplace is left bare and gaping, a hole of black dejection, whereas a few logs and cones on the firedogs, or a neatly filled and highly polished grate would add much cheer and distinction to the room.

It is rather a pity that the habit of a "dining-room suite" of furniture has become so impressed upon most of us. Much more interest and originality can be created by mixing two styles of consistent design. Choose, for example, mahogany Hepplewhite chairs, a sideboard of Sheraton design, inlaid with satin wood, and a serving-table of enamel or walnut of French Louis XVI. This combination, or one equally good, does not make the dining-room "mixy;" to the contrary, it is a pleasing and restful variation.

Another practice that helps give restfulness to a room is the use of things in pairs: well-balanced panels; a pair of lighting fixtures, two candles on the serving table or mantel; a pair of old decanters on the sideboard; two consoles or serving tables.

The most inharmonious thing in a dining-room is usually the sideboard, covered with plate and china. Its appearance is usually no worse, however, than the average china closet. There is something that smacks a little of the vulgar in such display. Those who champion the china closet maintain that glass and china should be kept in the dining-room so that the mistress can keep her eye on the breakables, take account of stock each day, and thereby keep the housemaid under discipline. Wouldn't it be as easy for the mistress to investigate her pantry each morning

All the furniture in the dining-room should occupy no more space than is absolutely necessary.



An example of a downstairs bedroom in a farmhouse converted into an attractive breakfast-room by consistent treatment



Classical scenic papers are effective in a Colonial room. No pictures are needed. For furniture, Sheraton chairs. The treatment of the china closet door is interesting



When not in use the porch-breakfast-room can readily be converted into an enclosed living-room. Here plenty of sunlight is assured whilst the casement cloth curtains will provide the needed privacy

In planning, have a space reserved for the sideboard, into which it fits. Do not let it protrude into the room. Such fittings as a china closet, if one must have one, should be built in.

The foremost essential for cheeriness is exposure. If possible, have the dining-room windows face south or east, for the morning sun at breakfast helps in starting the day well. If the exposure must be west, we will find much joy in watching the sunset as we dine in the summer.

A group of windows is always preferable to scattered ones. They lend themselves better to decoration with hangings and plants, and besides, we get from a group of windows a broad, generous outlook. On the opposite side should be the fireplace, so that when the sun deserts us at our meals we

can make use of his understudy. The day of the basement dining-room has passed, let us hope. To those of us not brought up in New York the idea certainly made a most unpleasant impression at first experience. The pyramidal walnut suites of our mothers' day, set as they were in a dark-toned basement dining-room, must have made eating a dismal horror. But in many city homes the dining-room is sunless, albeit it is above stairs. In this case a light, gay-flowered paper will prove charming, adding the life and brightness that is lacking. In the country, light, paneled walls or plain papers are best.

The floor of the dining-room may either be stained and waxed or painted. In the center, leaving a border of about three feet, spread an Oriental or plain rug. Oriental rugs are the most accommodating things in the world; they tone in with every sort of furniture, decoration and hanging. Never use a patterned carpet in a dining-room, especially one with a scattered pattern. The floor should be kept unobtrusive.



A Jacobean room consistent throughout. This shows, in addition, the proper arrangement of furniture assuring a sense of light and space in the room

Walls may be treated in any number of ways, but must be kept lighter in tone than the floor. Paneled walls of oak or cypress are beautiful, but in using these woods one is limited in one's choice of furniture. One successful treatment is to panel the

wall in large spaces in creamy white or soft gray. Should wood paneling prove too expensive, strips of moulding fastened on the plaster and the whole covered with several coats of paint make a distinguished and at the same time an expensive wall. Either buff striped paper or plain Eltonbury paper in a warm tan makes an excellent background for mahogany furniture.

The ceiling must be toned in with the side wall, but never a dead white. Beamed ceilings are almost always too heavy and out of proportion in a small dining-room.

It takes a very large dining-room to carry off a beamed ceiling and have it achieve any distinction. Delicate plaster designing may be used with success on the ceiling of a rather pretentious dining-room, but a simple, classic cornice is much better than a heavy, over-elaborated type. All these things are simply a matter of proportion.

"To break bread" presumes a certain intimacy, and it is as her dining-room is cheery or cheerless, as her meals are carefully chosen and served, meagre or overponderous, that we judge a hostess. She stands or falls with her dining-room.



Even Japanese style of decorations can be adapted, as here; although the furnishings, decorations and hangings should carry the Japanese spirit to the last degree without making the room look stilted and exotic

The Colonial dining-room is a gracious style, and for many homes this has proved the most successful, especially as we are rather rich in heritage of old mahogany. Simplicity must be the key - note: white, paneled walls, with perhaps an old family portrait over the fireplace; and simple side fixtures of Sheffield plate silver, make a good beginning. A wonderfully decorative and
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THE PLAIN FACTS OF GLADIOLI CULTURE—THEIR THREE METHODS OF INCREASE—SUCCESSION PLANTING—THE TIME TO CUT BLOSSOMS—WINTER CARE OF CORMS

STEPHEN EDSALL



HERE is no reason why any gardener should not get results with gladioli, just as there is no reason why any garden should be without them. For the gladiolus booms at that time when the garden needs brightening up—in those dusty, hot, midsummer weeks that come on the heels of spring freshness and prodigality and before the autumn re-vivification has set in, days when the perennial border is apt to look a bit seedy. Moreover, since they are to be had in a great variety of colors—ranging from scarlet and purple to white, rose and pure yellow—the gardener need have no fear of their clashing with the permanent plants. And they offer an added advantage in the fact that when cut they will keep over a week in

water, a possibility appreciated by all lovers of flowers in the house.

For those who have never grown gladioli, a word of explanation: they are increased in three ways—by natural division from the parent corm or bulb, by seed, or by the small corms growing at the base of the new corm. In the first instance all one does is to separate the corms from the original, either in the fall or when planting in the spring.

Between the seed and the bloom is a stretch of three years. Seed should be planted thickly very early in drills in the open ground, rich, sandy soil being preferable. They should be shaded until the tiny plants appear, and not allowed to suffer in the least for lack of moisture. Carefully cultivated, these should produce a crop of corms each about the size of peas. Plant the corms the second season. Some will flower the first season; all should bloom the third, affording a great variety and possibly some new kinds. Growing from seed has one disadvantage apart from the trouble; however, desirable varieties are not invariably perpetuated, whereas they are when grown from corms.

The most feasible method, then, is to buy your corms, which are cheap enough except in the finest varieties. Buy from a reputable seed house and your probability of loss and consequent disappointment will be reduced to a minimum if you follow directions. The first direction is to choose the right soil. Avoid a heavy, clay soil. They thrive in a light loam or sandy soil which is retentative of moisture, the ideal being a sod fall spaded or plowed, and then thoroughly worked over in the spring. Also avoid strong, fresh stable manure. If the soil lacks plant food, any commercial fertilizer thoroughly worked through will answer the purpose. Moreover, gladioli should have a new place every year, and always an open, sunny situation. Plant as early in the spring as the soil can be fitted, for late spring frosts do not penetrate deep enough to harm the early planted corms. If a heavy frost happens along, a light covering will forestall damage.

With the first planting, do not use the largest bulbs; keep them for the second or third planting, as the larger bulbs withstand the dry heat of summer better than the smaller ones. This succession of planting, with a two weeks' interval between, may be continued profitably as late as in the middle of June, or even as late as July 4th, but the months of August and September, being notably hot and dry, the later plantings are more likely to be less luxuriant, unless moisture is plentifully supplied. For these later plantings it is not difficult to find places, as some early vegetable has been used by this time, leaving vacant spaces in the gar-

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Although the more common way of winter storing is to strip the bulbs of their tops, some gardeners prefer to hang them up in this fashion



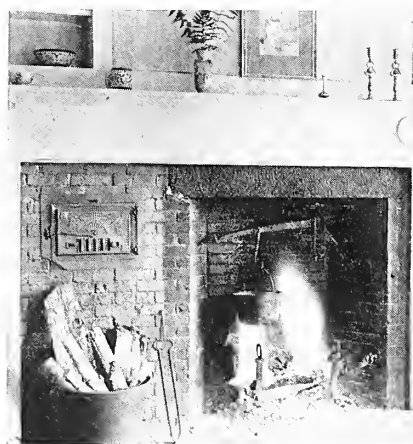
A valley plumb full of hush to the brim—a valley of wonders, of secrets, of sudden surprises; and rank on rank the serried hills march along the horizon. Who could abide city streets when such a view awaits!

Mrs. John on Orcharding

THE CITY WOMAN WHO SET OUT TO UPLIFT THE COUNTRY FOLK AND FOUND THE TABLES TURNED—
A HOUSE THAT HELD HANDS WITH A WOODSHED—RECOVERING A LOST FIREPLACE—LIFE

SUSAN RATHBONE ANTHONY

EDITOR'S NOTE: Readers of HOUSE & GARDEN will recall both John Anthony and Mrs. John Anthony. Here is a page of confessions by the latter—a human story that will make your heart leap up if ever a longing for the country has seized you.



For forty-six years the charm of this fireplace had been lost

FANCY starting to live in the country—the New England hill country—in March! We came on the 22nd; came from a steam-heated, well-appointed city house to a bleak, desolate-looking, shivery hillside.

My grandfather used to say that you could tell how good a Christian a man was just by looking at his woodpile, so

build a hen-yard—or rather, let the “Chicken Lady” build it!

Before we were married I had seen the house, but because of John I wore rose-colored glasses. His practical pen had discoursed so eloquently about the stability of the underpinning of huge slabs of Vermont granite, the fine way his tiresome apples kept in the cellar, the ever-running spring water and the two old fireplaces that I, too, was sure nothing else mattered.

Then, too, I had been accumulating a lot of what the country-folk discredit as “book knowledge,” and I saw myself transforming not only the house interior, but “uplifting” the manners, morals and house interiors of all my neighbors. Why not? Had I not had superior home training at the hands of that efficient housewife—my mother? I forgot when I contemplated all this that at home we always had a servant and always the possibility of extra help across the way. Again, why not, since I had not only taken two domestic science courses, but had taught several branches of housewifely arts for nearly a decade in two of the best-known household arts schools?

Metropolitan friends who looked a little pityingly on living in the country, even with John, said: “How much you can do for the country woman!” I disclaimed modestly, but secretly thought I could. However, it wasn’t long before I found the country-folk were uplifting me! When there is only one woman to do every bit of work, it doesn’t matter that she knows how to cook a delicious variety of food dietetically correct. One comes to understand why plain boiled potatoes supersede mashed and French-fried; why pie is the daily pièce-de-résistance—delectable,

I went out to look at ours. If John had stood sponsor for it I never could have read his title clear to the skyey mansions, but, luckily, I recalled that he had ordered forty cords. That was the first blow. Next came the hens. They ranged freely because the theory is that a free range is best for both orchard and hens. Unfortunately for my disposition, the hens thought the orchard was located on the front porch and on what ought to be the front lawn. John and I nearly came to “words” over them, but later, when he found how they devastated our garden and had no respect for his barn and his wagons, he decided to

"filling," quickly and easily made and fairly inexpensive. So it goes. I haven't yet come to white oil cloth or a red tablecloth, but I am no longer horrified by those who do!

Like most of these hill-country houses, ours is a story-and-a-half house, holding hands with the woodshed and the barn. When we came, the front of the house was painted gray, with white on the east end. On the barns and woodshed, the sides visible from the road displayed a coat of red, but the backs of all the buildings were guiltless of paint.

I have not yet ceased to wonder where the former owner put his family of eight, to say nothing of his "lairs and peanuts." We find that our present family of four fills the house comfortably, and our Lares and Penates clamor for larger quarters. However, we feel distinctly metropolitan because we must hoist our upper-story furniture through the window. The room now our living-room had been used as kitchen, dining-room and living-room. The floor was worn hollow, splintered, and most of the yellow ocher paint had worn off. This color had been used on the baseboards, and a cold, dingy, drab paint was on the rest of the wood. An

ugly, flowered paper, with a dominant note of pink, was on the walls; the ceiling was black with smoke. The cook-stove, which continually leaked ashes because of a broken casting, stood in front of the fireplace. For forty-six years the charm of this fireplace had been lost. It was boarded up and over the boards a green paper hung in tatters. The shades at the window were old and dingy, perforated like a strainer.

We called in some painters and paperers who had been imported for a wealthy neighbor's work. Their estimate on one room made it impossible for us to consider employing them, so we rolled up our sleeves and started in. It took about four weeks of intermittent evening work to get that doleful, drab paint covered—but, such a transformation! We hid the paper with successive coats of tan Muresco—eventually we plan to seal it with our own wood; new shades were ordered from a hitherto despised mail-order catalogue. We made mahogany sectional book-

cases by applying a mahogany stain to apple boxes. A few bits of real mahogany lent an air of verity, and we feel irritated when

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Soon I, too, began to watch the growth of the young trees and examine each suspicious curl of a leaf



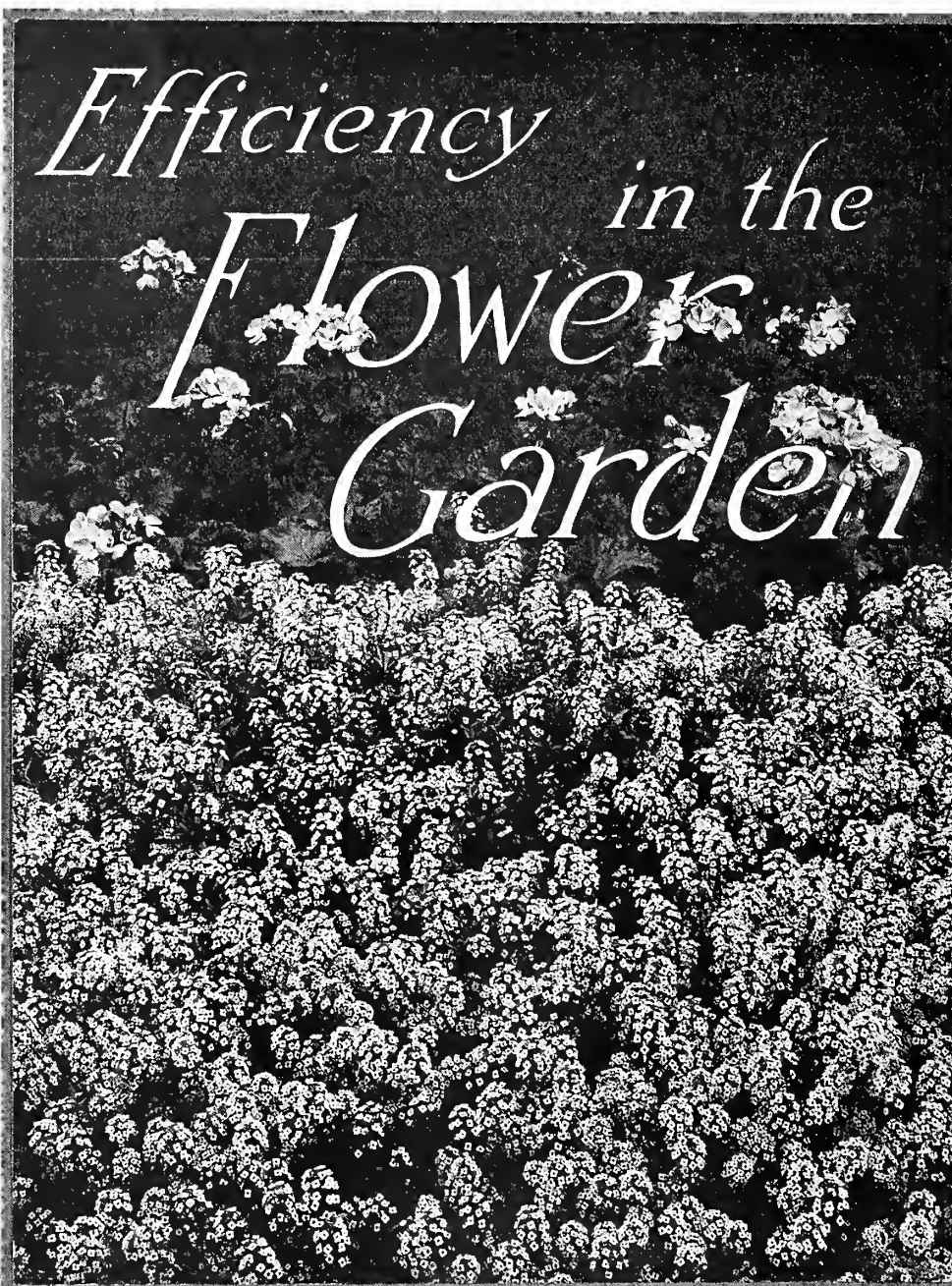
At the end of the orchard is our "dream tree," where John and I dazzle our minds with plans for the future and feast our eyes on the view of the surrounding hills



The China Aster is an excellent plant for a reserve bed from which to fill gaps



A garden lingerer, the cosmos is unequalled among the tall annuals for late summer



Because of the long season of bloom and ease of culture, nothing is better for edging than Sweet Alyssum

WHILE the various flowers available for use in the flower garden are classified botanically as annuals, biennials and perennials—hardy, half-hardy and tender; for cultural purposes they are separated into quite different groups. Some are started each year from seeds, flowering the same season; others are started (usually quite early in the fall) each year to flower the following year; others, the hardy perennials and some self-sowing annuals, bloom year after year; and still others, as the ordinary bedding-plants and the summer-flowering bulbs, are carried over winter in a growing or a dormant state, to be set out in spring, and are propagated from seed only when a new supply is wanted. All of these classes of plants should be represented in the well-rounded garden.

Flowers to be sown from seed include the annuals, several biennials and a few perennials. One of the main differences between the flowers of this class and the regular hardy perennials is that while the former have to be started again each year, their seasons of bloom are much longer. They are, therefore, especially valuable for borders or for masses of color which are wanted to last the season through. Also there are some places about the grounds and some of the parts of the flower garden which one may prefer to change from year to year: and for use in such places the flowers which may be started from seed are especially valuable.

MAKING OUT THE SEED ORDER—THE FLOWERS TO START NOW FROM SEED—WHERE TO PLACE THEM IN THE GARDEN—HOW TO HANDLE THE SEEDS BEFORE PLANTING

F. F. ROCKWELL

Photographs by N. R. Graves



Though it has a tendency to weedishness and garish colors, the petunia is of easy culture and profuse bloom

long season to mature that they must be started indoors early in the season. Others which do not take kindly to transplanting and come into flower quickly are better sown where they are wanted to bloom. Still others which would bloom if sown outdoors and may be handled in that way, give much quicker results if started early so that a good part of their growth is made by the time they are set into the flower bed or border in which it is intended to have them mature. These methods may be described briefly as "Sowing in Heat," "Sowing in the Seed Border," and "Sowing Where They Are to Bloom."

The first method, of course, involves more

The annuals, too, are, on the average, much more dwarf in growth and lend themselves readily for edging and foreground planting in front of taller things. A combination border with hardy perennials in the background and with bedding plants and annuals in the foreground makes a convenient and effective way of arranging the garden, particularly on the small place, where it is advisable to avoid the "chopped-up" appearance resulting from making too many flower beds, crowded, for want of room, too close together.

There are several methods of starting the plants, depending upon the use to which they are to be put and also upon the variety. Some of them, being introductions from warmer climates, take such a

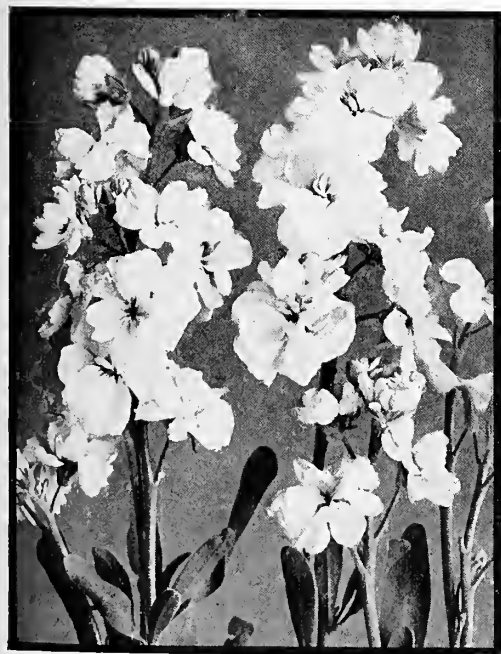
work than the others. It gives the earliest and most certain results. And, with a number of plants, such as cosmos, and with most of the biennials and perennials that may be grown to flower the first season, it must be used. In all cases, except where a dense edging or a tangled mass of bloom is wanted, one can get more satisfactory results by having plants to set out than by sowing seed.

Often it is not possible to start all one's flower seeds, and the next best method is to make up a little border of finely prepared soil raised somewhat from the level of the ground and in a sheltered position, where it can be readily tended and watered. In a coldframe, or against the south wall of the house or garage (where water from the eaves will not drip on it) will make a good place. It is much better to start all the seedlings in one place than to plant them all around the garden, a few here and a few there, with the idea of transplanting them later. They all need much the same care in the early stages of growth, and it not only saves a great deal of time, but it secures much better results to have them all in one place where the various operations of thinning out, watering, trimming back, and so forth, may be more expeditiously carried out.

Then, with most of your flowers started in one of these ways, things like poppies and nasturtiums, which are usually sown where they are to bloom, can be planted under the right conditions: just after a good, soaking rain, when there is a prospect of several days of warm weather, or at the beginning of a warm, rainy "spell."

By all means, make up your order for flower seeds in the garden. Take a little stroll around the place and see what needs to be planted, rather than look through the catalogue to see what there is you would like to plant. Jot down, as you look about, the conditions you will have to meet.

You can go over your place from side



Stocks grow ten weeks from seed, hence the name; successive sowings produce an all-summer bloom. Old folks call it the "gillyflower"



A rather stiff formal plant, the zinnia, when used intelligently, can be made of great decorative value along borders

to side and from front to back. With your garden problems all before you on a sheet of paper, you can go over the list of flowers to be started from seed—some of which are given at the end of this article—and select those things which will best answer your own particular purposes. Get for the back fence, for instance, a packet of the red sunflowers, which, while not pure red, are distinctly different from any of the older sort, being

striped, shaded and zoned with red—the flower being borne freely on tall, branching stalks. As for the neighboring hen-yard—start some *Ricinus*, one of the taller-growing sorts, if necessary, which will grow to a height of 8 or 10 feet; the hens will take care of that. Nothing is better for a long row of edging than Sweet Alyssum—Lilac Queen is a new variety which is equally as good as the white sort for a border. If the lawn mower must be used close to the bed something more upright will be preferable, and then one of the candytufts can be used. Or for a still more upright border the dwarf zinnias, either in mixed colors or in scarlet. Where a tall background plant is wanted, the new annual hollyhock, which will bloom freely the first year if sown early, would prove ideal. There are, of course, a number of other things which would answer this purpose—such as the taller snapdragons, or amaranthus or *cosia*. For a partly shaded bed, where beautiful flowers are wanted, one of the many fine bedding

begonias would do well—although for a situation of this kind nothing surpasses the tuberous begonias. Where a low bed of bright colors may be wanted in the full sunlight the favorite old portulacas are sure to give pleasing results. *Paranna*, a new sort, has flowers a great deal larger than any of the older kind.

Flower seeds vary greatly in size, in shape, in hardness, in the amount of heat required to get them to germinate, and in the ways which they should be handled after they are up and as they grow. But there are a few rules in regard to starting them which apply to all. Heat and moisture must be supplied, whether they are started inside or out, which will meet their individual requirements. Indoors both these things may be regulated. Outside, of course, one has to take a chance on the temperature; but it is one's own fault if he plants tender things in April and fails to obtain successful results. But, both inside and out, the amount of moisture can be regu-

lated, and, as neglect in this respect undoubtedly causes more failures with flower seeds than anything else, the gardener, and especially the beginner, should make a strong resolution not to let his plantings of seeds dry-rot.

Almost any soil is rich enough to maintain little seedlings until they are ready to transplant, but not every soil will do to start them in. We cannot take too great pains in procuring or in mixing up a soil that will (Cont. on page 208)



The African Daisy, a beautiful annual, should be given plenty of room on account of its rather sprawling manner of growth



There it was as it had always been—the front door shadowed with the clematis vines and the white snakeroot in blossom



The Old Ballard Place

AND THE GARDEN TO WHICH A WOMAN RETURNED
WHERE ONCE SHE USED TO PLAY—ON BOILER WORKS
AND BIRDS—WHAT THE GERMAN GARDENER WANTED
TO DO—OF HIM WHO LOVES A GARDEN

FANNY SAGE STONE

Photographs by R. L. Warner

WE always hurried by the place, especially after dark, fearing that some dreadful thing would spring out at us from behind the great spruce trees. No house and grounds could have been more gloomy and forbidding. A high picket fence, painted brown and sanded, was in front of the house. The gate was really the only fascinating thing about the whole place. It was kept shut by an iron chain that was hung from the gate to a post, and on it was a heavy iron ball. This chain made a splendid swing for a little girl, and on the few occasions when I ventured into the yard the temptation to stop for just a moment and try the swing would overcome me, until I thought of the stern-faced people who might

at any time fling open the big door and glare out at me. The place looked like the people within the house, and I can

remember when a child, wondering if houses always looked like the people who lived in them. A straight, brick walk, almost overgrown with grass, led up to the front door of the austere, white house with high, front steps and with many green blinds that were always closed. Shades were drawn to most of the windows, too, so little, if any, sun ever peeped into the cold, uninviting rooms. The brick walk led one around the house to a side porch. There were a few peonies, a honeysuckle bush, a syringa and some blush roses along its edge. A forlorn old horse grazed in the yard and kept the



Near the side porch was the same syringa bush now grown 'way above the second story windows, a shower of white blossoms in June

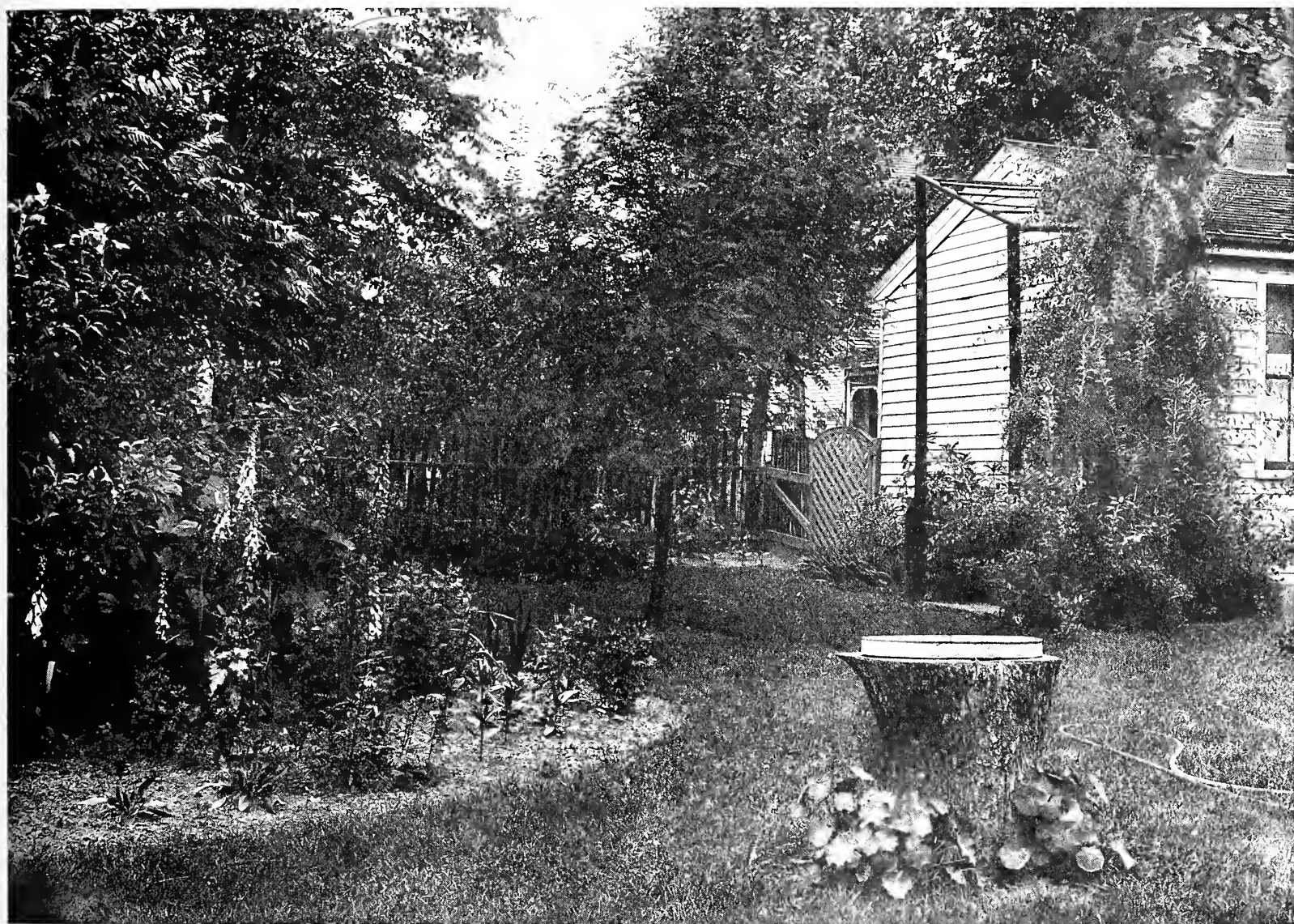
grass from entirely overrunning the place. My big brothers used to tell us that this horse was fed on barrel hoops, as we might plainly see when we looked at his sides, and we, in our youthful simplicity, believed it.

I remember going up the side steps of this house when I was a little girl and knocking timidly at the door when I was sent there on an errand, and the greeting that I met was like everything about the place—cold and formal. The glimpse of the interior, showing plain, white walls, unpapered throughout; no pictures anywhere; no draperies; no little home touches, made me long to hurry away much faster than I had come. So the place held for

its crawly arms over the eaves and onto the very roof itself.

I went often to admire this spot during my stay in Oldham. I was irresistibly drawn to it, not only because of its beauty and restfulness, but because of the fact that I was interested in seeing how much had been done to transform an ugly, uninteresting spot into a lovely one. It was so impressed upon me that I was constantly in a state of wonderment and surprise. Then, too, it was interesting and delightful to meet the ones who had transformed it and to go away with a sweet, happy memory of the place that long ago gave me an almost uncanny feeling.

Only half a block away from a noisy, dusty business street one



It was in the backyard that the clothes drier used to be, its long arms always ready for a swing. Now a bird bath stands there, and orioles and blue birds banter where the children would swing. There's a matrimony over the back door, too

many years for us all a memory full of mystery, dread and fear.

Imagine my surprise when, on going back to the little town of Oldham last summer, I found this place a most attractive one and the house full of charm. The youngest son of the family had married, and, full of the right kind of sentiment, had bought the old home and made it so inviting and comfortable that I found it hard to believe it the place of long ago. Yet there was the same little brick wall, not overgrown as it used to be, but well kept in every way. There, too, was the syringa bush near the side porch, now grown 'way above the second-story windows, and a mass of white blossoms when I saw it in June. The white lilac bush near the front steps was a real lilac tree, and a beautiful trumpet vine partly covered the south side of the house and ran

found this fresh, attractive yard, and it was all the more attractive because of the great contrast, perhaps. A yard 76 by 120 feet; houses very near, and shops not far away, and yet the spot was full of blooming shrubs and plants; birds were singing all the day, building their nests and rearing their young in safety. There were bird houses provided, two birds' baths and many fruit-bearing trees and shrubs and the different members of the family were on the lookout constantly for enemies of the birds. Cats and English sparrows were not cordially received. In fact, an air gun was often called into action.

I am going to tell you in detail about the making over of this yard, to show any incredulous city person who feels that it cannot be done, that it is a possibility and a very successful one.

At the south of the entrance to the front yard a double-flowering plum flourished and looked like a great pink popcorn ball in season. Across the front of the yard to the south was a pretty row of Japanese barberries that met a glorious hedge forming the south boundary of the place. This hedge had been worked out with thought and care. Most of the things in it were native shrubs and trees brought from the woods and lanes near by. How they did grow, and how graceful and artistic the whole arrangement was in contour, color and grouping! There were bushes of wahoo, snowberry, dogwood, high-bush cranberry, golden elder, the lovely purple barberry, golden syringa, sumac (the cut-leaf), Tartarian honeysuckles (in white and pink), and lilacs of different colors. It was always showing blossoms or

partly hidden by overhanging branches of cranberry and dogwood, was a great trunk of an oak tree, over which ran blossoming nasturtium vines. On this stump was the basin for the birds' bath, and all through the summer the birds came in numbers to drink and bathe, and no spot in the yard was more attractive.

I remember many delightful afternoons spent in this garden, yet one stands out in my memory more distinctly than any other, and it is because of the joy I had that day in watching the birds come to this bath. When I tell you of it, please remember how many people are saying things like this nowadays—"No wonder we never see birds now as we did long ago. They used to come to our yards, but they do not like the city." Then, too, please remember that this yard is less than a block from one of the



The wide beds in front of the hedges are a mass of color all through the season. First came the Oriental poppies, then the iris and peonies; later, the crowning beauty of the year—the Canterbury bells and the foxgloves. When these had gone, hollyhocks and snapdragons and gladioli showed their colors

fruit of some kind, and in the fall was especially attractive to the birds, as well as to the people. The cedar waxings would come in dozens and settle down on the Tartarian honeysuckles, and when they took their flight not a red berry would be left to delight our eyes. The catbird, cuckoos and brown thrasher would come creeping in and out, feasting on the berries of the elder, and seldom did they leave without calling back a little "thank you" song. This hedge formed a graceful, irregular line along the lawn. Around one of its curves was a border of sedum—and, by the way, nothing can be prettier in such a place than this plant with its trim, stiff branches, its soft, green color and its especially attractive pink flowers in the fall. Behind this sedum grew quantities of the white snakeroot that had been brought from the woods near the river. This filled in the space completely between the sedum and the higher shrubs back of it, and its white flowers harmonized with whatever blossomed near. Close to the hedge,

noisiest shops ever created by man—a boiler shop with up-to-date air hammers and compression drills. I sat alone with my book one May day, not more than fifteen feet away from this bird basin, when I saw a flash of wonderful orange, and the Baltimore oriole was taking a bath! I watched him quietly as he dipped and splattered and dipped again and again. Up he flew to the nearest tree to complete his toilet, and before I had looked back to my book the blue bird came, with his beautiful blue dress. He wanted to get into the water, but was not exactly sure of my friendship, and contented himself with a drink. Then off he flew, just in time to give place to three scarlet tanagers that settled themselves not only for a drink, but for baths as well. Think of this, and make your yards attractive for birds, whether you live in a noisy city or quiet town. Birds will come if you invite them and protect them. (There is one objection to having a birds' bath

(Continued on page 192)

Real Irish

THE Irish terrier is a true Irishman. I do not mean a low comedian with a red wig and a stub of a clay pipe, nor a sweetly, sad, romantic tenor with nicely rouged cheeks and pumps with great silver buckles. The objection of a certain tremendously clever gentleman from Dublin that there is no typical Irishman is half truth, for the "typical Irishman" is usually a poor, lopsided creature. If drawn by a comic artist, his external features are exaggerated out of proportion. A lady novelist, on the other hand, will turn him inside out, an equally unfaithful portrait.

The terrier from Ireland is remarkably like his original master. As one of his oldest and best friends once said to me: "Shure, he's a rale bit o' the Ould Sod." Irish terrier and Irish gentleman both hide their deeper feelings and finer sensibilities under an apparently care-free exterior. The better one knows these two, the stronger their likenesses in disposition and character appear. So, after a deal of casting about, I can find no more fitting title for this, the story of the Irish terrier, than the two words "Real Irish." But one must remember what real Irish is.

The little, four-footed Irishman is the most lovable of dogs. Always happy and lively, with a devil-may-care air, he is a bit too cock-sure at times, but his heart is light as a balloon

and almost as big, and he is always ready to meet anyone half way. He races through life, his head cocked on one side, his



The John L. Sullivan of dogs; he never "starts things" out of pure devilry, but he can stand up for himself when occasion arises. His scrappiness is mostly an exuberance of spirit and a desire to mix in

A FAITHFUL PORTRAIT OF THE IRISH TERRIER—THE TRUTH ABOUT HIS FIGHTING PROPENSITIES—WAS HE ORIGINALLY AN ORANGEMAN?

WILLIAMS HAYNES

Author of "Scottish and Irish Terriers," "Practical Dog Breeding," etc.

bright eyes sparkling with keen merriment, his tail gaily erect. He is ever on the alert, and he never misses a trick in the game. He may blarney, but he never begs; and he fears no man or beast. Come fair weather or foul, good luck or bad, he is always the same cheerful little chap, ever ready to share any lot with his beloved master.

This master of his is his god. Though he can never be accused of snobbishness, still his deep affection for his own family is a very different thing from his frank *camaraderie* with the world at large.

His love is strong and sure and faithful to the very end of his life. Only the voice of his master, raised in displeasure or in discipline, can stop the gay wagging of his tail, but he is very sensitive to rebuke from those he loves. Through his heart he is tractable to training that could never be beaten into his tough little hide.

All the terriers are blessed with the happy knack of making themselves at home in any clime and under any circumstance, but in this the Irish terrier is trebly blessed. Box him up in a crate and ship him off—it makes not a bit of difference whether your destination be a ranch in Arizona or an apartment in New York—when you open up his box he will hop out, greet you with a joyous bark, make a hurried inspection of the new premises, and come back with wagging tail to tell you: "This suits me! Now, what's next on the program?"

Over and above his perfect adaptability to any surroundings, the Irish terrier can with impunity be cosmopolitan in his associations. He can hobnob with the grooms in the stables without losing those qualities that make him so delightful a companion for his mistress. He is one of those rare chaps equally at home and equally popular in the harness room and in the parlor. Moreover, he is well able to lead a varied life. He is a bully good pal for man or boy in the country. He is a fitting and proper escort for milady in town. He will hunt moles or rats or woodchucks with furious gusto from morn till night, and



He is built after the model of a thoroughbred race horse, lithe and springy



His coat—the redder the better—must be like pinwire, with a wooly underjacket



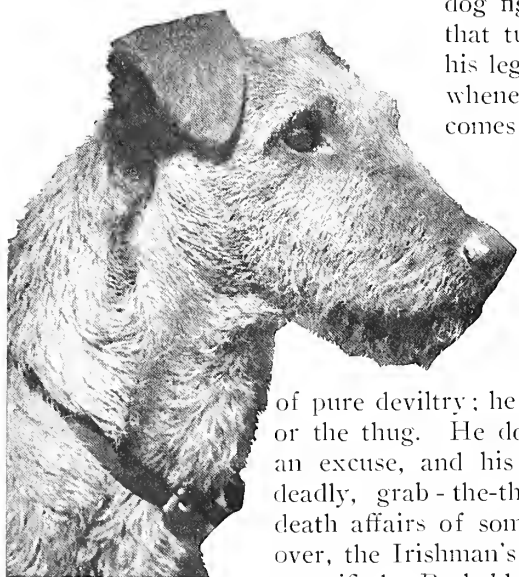
When he runs, the Irishman has a free, open swing, everlastingly on the alert

he will also lie for hours at a time on the nursery floor, mauled and pulled about by the children. He will run his legs off after a tomcat, and he will fearlessly tackle any tramp or burglar; but no one ever even thought of him as snappish or bad tempered. The Airedale is proverbially a versatile dog, but the Irishman is hardly less so. The main difference is one of pounds. The Irish terrier is not big enough to hunt grizzlies in the Rockies or lions in Africa. The Airedale is too big to be comfortable in the house or convenient in the city.

Years ago in belligerent Belfast, which was the hearthstone of the breed's home, the nickname of Daredevil was bestowed on the Irish terrier. He is truly a reckless dog, who carries a chip delicately balanced on his long, sloping shoulder. His rivals have made this the basis of many a jealous slur. "The greater the truth, the greater the libel," but the Irishman, despite all his liking for an occasional mixup, is not a bad dog. True, he is a very touchy dog, quick as lightning to resent any familiarity or interference from other dogs. "To be sure," one of his Ulster friends once said to me, "He's a daredevil, but ah! he's such a dear devil, and as for a dog that won't fight when he's picked on, he's as bad as a man—worse!" This truly Hibernian reasoning is perfectly valid and sound in the case of a so thoroughly Irish terrier. One does not have to believe that John L. Sullivan is deserving of a niche in the Hall of Fame to admire a man who uses his fists to protect his person or to answer certain insults. Nor does one have to be a lover of

dog fights to dislike a dog that tucks his tail between his legs and cuts for home whenever a gutter pup comes sniffing about. There is not a malicious hair in the Irish terrier's wiry jacket. He never sets out deliberately to hunt for trouble; he never "starts things" out

of pure deviltry; he never plays the bully or the thug. He does not scrap without an excuse, and his fights are never the deadly, grab-the-throat-and-hang-on-till-death affairs of some other dogs. Moreover, the Irishman's scrappiness has been magnified. Probably he fights no more than any other gritty, spirited dog, and, since he is amenable to reason, he will, if properly brought up, prove to be a remarkably peaceable canine citizen.



A difference lies in his head—it should be wedge shape, and dented between the eyes



He is intelligent as well as clever, and he can easily be taught those lessons in etiquette and obedience so necessary for his own peace and his master's pleasure

that the Irish terrier was nothing more nor less than the common or garden variety of terrier that flourished in the Border counties of England and Scotland about 1800, transplanted and given a national name that he did not deserve. The Daredevil's Irish friends came to his rescue, and Mr. R. J. Ridgeway capped the climax of all extravagant claims by stating that there were unmistakable references to the dog in sundry ancient Celtic manuscripts, chronicles of the Irish kings. He, however, failed dismally when the production of the aged parchments was demanded, and "Billy" Graham, whose love for the dog won for him the soubriquet of "The Irish Ambassador," very properly poked fun



Compared with the wire fox terrier, he is four or five pounds heavier and larger for his weight



Again compared with the Airedale, the main difference is one of pounds and size for weight



A touchy dog, quick as lightning to resent familiarity or interference from other dogs

at all this balderdash by solemnly declaring that the sole and only reason the Irish terrier was not itemized in the manifest of the Ark was that Noah knew they could swim so well that it would be foolish to take a pair of them aboard.

Dog fanciers dote upon finding an ancient and honorable lineage for their favorite breed, but the terrier from Erin is quite well able to stand upon his own straight legs, thank you. However, those who feel that age is a desirable attribute for the



If you are looking for a good companion, pick out a bright, husky pup, with good straight legs, a shortish back, small ears, dark eyes, and a red wiry coat

Irish terrier to possess will be glad to know that there is good reason to suppose that he is no upstart. When he was discovered in the North of Ireland he was well established in distinct type and bred true. These two facts are the tests of a thoroughbred and proofs of age. There were differences in detail among the early dogs, greater differences than we now see in a class of Irish terriers at our bench shows, but all were sandy or reddish in color, and all were markedly more light and racy in outline than the other terriers of Great Britain.

About 1875 the breed began to make friends outside of the land of his nativity. English fanciers took him up, attracted by his

winning disposition and his marked individualities, and all the discussions about his origin proved to be valuable advertising. But historical debates were not the only ones held on the attractive subject of the Irish terrier. His early friends wrought themselves into furies over the questions of how much white should be allowed on his chest and what should be the correct color of his toenails. Next came the cropping question—in those days the Irishman's ears were cropped, as the Great Dane's and the Boston terrier's are now—but this was settled once and for all by the firm action of the club devoted to the interests of the breed. The Irish terrier can, therefore, claim justly to have initiated the cropping discussion which ended in the abolition of this custom for all breeds in England, a question that has recently been put to our own American Kennel Club, and which may soon be answered by an anti-cropping edict in this country.

The red fox terrier bugaboo, which, like the poor, is always with us, was first raised over the long, lean head of Champion Bachelor, a famous dog who made his début in 1885. Everyone who knows both the Irish and the wire fox terriers knows that the two are, speaking roughly, similar dogs. They are, however, quite distinct in type. In the first place, the Irishman is not only four or five pounds heavier, but, being lithe and racy, he is larger for his weight. He is built after the model of a thoroughbred racehorse, while the fox terrier is a cobby hackney. The greatest difference, however, is in the head and expression. The Daredevil's head is, roughly, like a wedge; the fox terrier's is coffin-shaped. Moreover, the correct Irish head has a definite "stop," or dent, between the eyes; the ears are placed higher and carried more lightly; the eyes are set in at a more acute angle; the stiff hair on the muzzle is a tuft under the chin—not on the upper lips. All these seemingly trifling details result in a very great difference in expression. The fox terrier looks keen and varminty; the Irish terrier expression is alert and devil-may-care. The difference, which seems a mere technical distinction on paper, is very appreciable when one sees two typical dogs of the breeds.

(Continued on page 198)

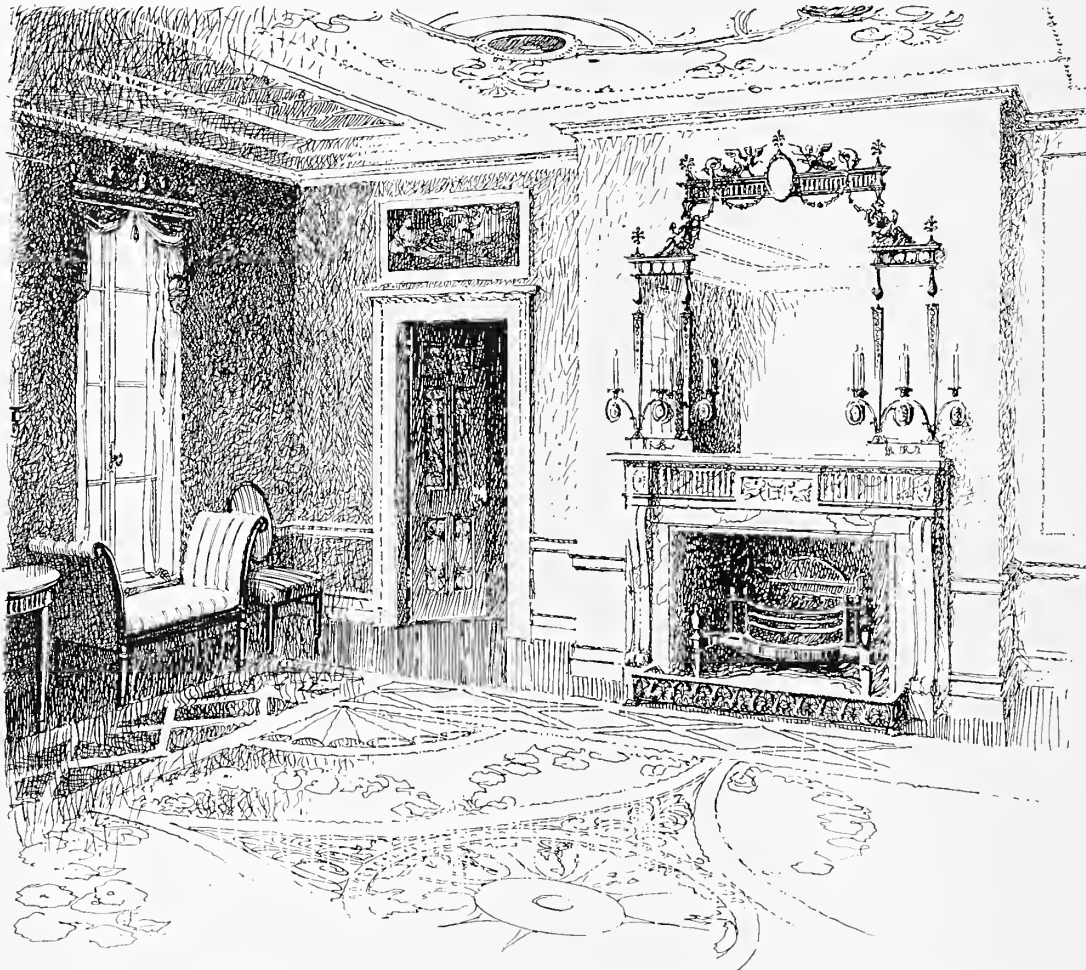


The ears should be placed high and carried lightly, the eyes set in at an acute angle

The Uses of Woodwork in Interior Decoration

CONSIDERING THE PERIOD OF ADAM—DIGNITY, DELICACY AND DRYNESS—THE STRUCTURAL ELEMENTS OF AN ADAM REPRODUCTION—THE PURELY ORNAMENTAL USE OF FURNITURE

ALFRED MORTON GITHENS



Corner of a room after manner of Robert Adam—Mantel of white marble, colored inlay, or of white wood; gilt mirror-frame and window-cornice; gray, pale green or dull, yellow walls, relieving the white chair-rail, base, door frame and picture framing; ceiling, pale colors, with plaster cornice, mouldings and arabesque in white, and inserted circular paintings; mahogany door, painted panels; dark wood floor with carpet of special design; all furniture of Hepplewhite or Sheraton type

“IF we have any claim to approbation, we found it on this alone: that we flatter ourselves we have been able to seize with some degree of success the beautiful spirit of antiquity, and to inform it with novelty and variety through all our numerous ways.”

So Robert Adam wrote a hundred and fifty years ago. His work in general, and particularly the decoration of his rooms, seem to me close in spirit to the old Roman work. His arrangements are always of the highest dignity, his outlines pure and delicate. *Dignity, Delicacy*: these are the chief attributes; must we admit at times a certain *dryness*? His rooms are lofty, ennobling, inspiring; but conventional to the last degree, with the rigidity of a formal age.

His was the last great period of English architecture; after it came the “church warden” and all the confused abortions, that culminated in the Mid-Victorian. The great cabinetmakers, Hepplewhite, Shearer and Sheraton, were his contemporaries; under his influence their furniture developed the characteristically deli-

cate purity of outline and modeling we know so well. Robert Adam was the central figure, dominating these men and his three brothers; we see Robert Adam in the delicate classic Wedgwood figures, white on a dull blue, gray, pink or chocolate ground; for Wedgwood was a contemporary and copied Adam’s architectural decoration in porcelain. This cameo-like treatment was first popularized by Adam. Nearly all his walls and ceilings show fine white decorations on a pale tinted ground, whereas his immediate predecessors, as far as I know, never colored their ceilings except for a sparing use of gold on certain parts of the ornament; on the walls they used oak or white painted wainscoting whenever they could.

He himself explains his scheme in describing his work at Kenwood:

“The grounds of the panels and friezes are colored with light tints of pink and green, so as to take off the glare of the white, so common in every ceiling till of late. This always appeared to me so cold and unfinished that I ventured this variety of grounds to relieve the ornaments, to remove the crudeness of the white and to create a harmony with the ceiling and the side walls with their hanging decorations.”

Wainscoting he seldom used; nothing heavy or clumsy; such a thing as a beamed ceiling never occurs. His decoration is invariably in plaster in low relief, with rectangular or circular painted panels inserted over doors or in other

places in wall or ceiling where they composed in the general arrangement; these, with the deep-toned wood of the doors, formed the dark notes. His mantels were generally of white marble (he was the first to introduce marble mantels in England), with sometimes a colored marble inlaid in flutes or as a background in the decorated panels; he used wooden mantels at times, as in Sir Joshua Reynolds’ house, but he preferred marble. Over the mantel was a painting of one of his curious mirrors with its strange, elaborate frame.

He took under his charge the complete decoration of a room, designing the carpet, the window hangings, all the furniture, even the ornaments. There was nothing whatever left to chance: there could not be, with a room pitched in such a high and delicate key. A Jacobean room, with its dark oak wainscot, is of a burlier, heartier type and can assimilate many a monstrosity without being much the worse; but not so this exotic from the South, as certain manor houses in England testify, whose owners have furnished their Adam rooms without discrimination.

The furniture had its set place along the walls. Between the windows were half-round tables of inlaid or painted mahogany and other woods. They were called pier tables, as they stood against the "piers" or masses of wall between the window openings. Under the windows stood window stools. At other places against the wall were chairs and sofas. The dining-room contained a great sideboard, long and low, with wine-cooler and cellarette below, and knife-cases in the form of classic urns above. There seems occasionally to have been a center table in the dining-room. Otherwise all furniture was ranged along the walls.

For cards, the pier-tables were brought out and set back to back in pairs to form circular tables. If they were made in the familiar manner, with double-hinged top and sliding leg, a single pier-table would form the complete circle. In the dining-room several rectangular pier-tables were brought to the center and placed side by side, with a half-round pier-table at each end. This formed the dining table, or "Set of Dining Tables," as the term was then. After dinner, back to the wall they went.

There were no books, papers or odds and ends about; one or two vases or statuettes may have stood on the mantel: the books or papers were in the library. In short, the Adam room was the formal setting of a formal, dignified life; shocking at times their conversation might have been to our sense of modesty; but nevertheless the life was one of rigid convention and etiquette.

Whether such a style is suited to our free-and-easy ways, I much misdoubt. Would such a room seem ever right with chairs and tables not formally arranged? In a drawing-room, perhaps, or reception room or dining-room? One could never lounge in such a room; but, then, he cannot lounge against a Sheraton or a Hepplewhite chair-back without breaking it. Many an old lady still remembers being reproved for leaning against the back of a chair. *O tempora! O mores!* Perhaps rocking on the hind legs of a chair will be considered perfectly good form before long.

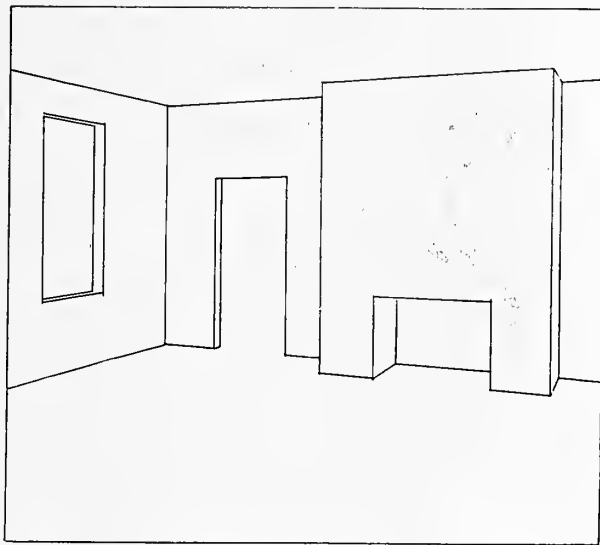
But to more certain matters. The Adam style, we have said, was primarily a style of plaster decoration. For this alone it should be worth our study, for we have made little use of decorative plaster in this country. A revival of it seems just begin-

ning. Unfortunately, "plasterwork" suggests immediately the coarse, heavy cornices and centerpieces of the Brownstone Age; "Stucco" suggests cheap, poor, sham construction. But it need not mean anything of the sort. The Greeks and Romans had the highest respect for the hard, white coating. The great Doric temples of Paestum and Agrigento, the Ionic Temple at Bassae—all were of cut stone covered with plaster or stucco. The finish was so fine and hard that in Roman times slabs were cut from the walls and used as table-tops, and even as mirrors! Vitruvius describes it as often more beautiful and more durable than marble; but, as far as I know, where marble was used as the building material it was not covered with plaster. The temples mentioned above were made of a rougher stone.

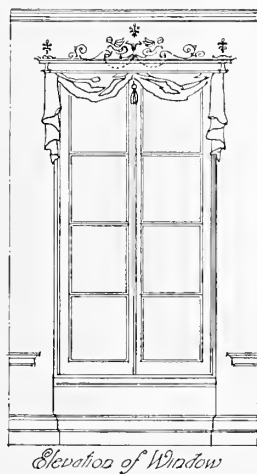
I do not know why plaster should not be more used to-day. There is no lack of skilled Italian workmen of the highest order. It is not expensive; compared to wood-carving, for instance, far less expensive; for one mould can make many ornaments. Adam's decorations were cast in metal moulds. His predecessors, under Wren and Grinling Gibbons or their followers, had modeled directly in the soft lime-plaster on the ceiling (they seldom used it on the wall), but Adam introduced the modern way of casting. Gelatine moulds are used now. A full-sized

model is made in clay of each type of ornament; the architect or decorator criticises the model, which is altered until satisfactory. Then the clay is coated with shellac and grease, the soft gelatine poured around it, which, when it dries, is lifted away from the clay and is used again and again as a mould for the plaster.

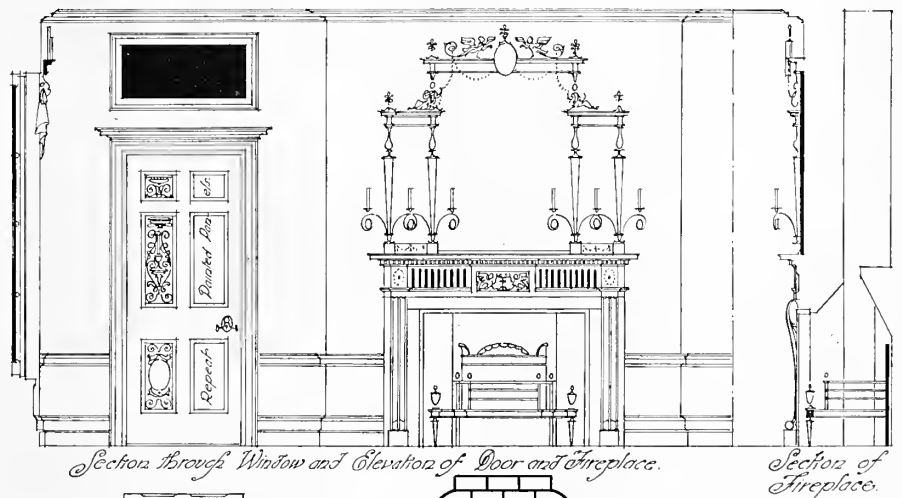
The plaster casting is not always solid; unless very small, it is merely a thin crust of plaster of Paris reinforced with burlaps, following the outline of the mould and fastened in place on wall



The problem of the series—a window, door and fireplace, the major problems of any room



Elevation of Window

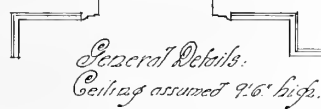


Section through Window and Elevation of Door and Fireplace.

Section of Fireplace.



Working details of the room to scale—much of the ornament omitted to simplify the drawing; all ornament and mouldings to be very fine and delicate in scale



General Details.
Ceiling assumed 9'6" high.



Scale of Feet:

or ceiling with galvanized or copper wire. When very large it is sometimes braced with pieces of wood, as in the case of large cornices or the ceiling ribs of a dome.

Such a construction was abhorrent to Adam and seemed, I suppose, unsuited to the material. He preferred the *bas-relief* of the Appian Tombs or of Pompeii, and he heeded Vitruvius,

(Continued on page 205)



An intimate spot not thirty feet square is the flower garden. Rhododendrons, box and arborvitæ form the enclosure, and around the walls, *sedum spectabilis*, with dwarf nasturtiums between; then come tall, blue iris interspersed with golden marguerites; a third tier is composed of daffodils, lavender and white phlox; and to complete the formal effect, a Rose of Sharon is planted at each corner

Landscape Gardening on a Small Place

BEING THE STORY OF A PATH ON A BROOKLINE PROPERTY—THE ROUND GARDEN IN THE SQUARE PLOT—GROWING A FRAME FOR A VIEW—THE CREATION OF INTEREST IN A GARDEN—PRAY, HUBBARD & WHITE, LANDSCAPE ARCHITECTS

ELSA REHMANN



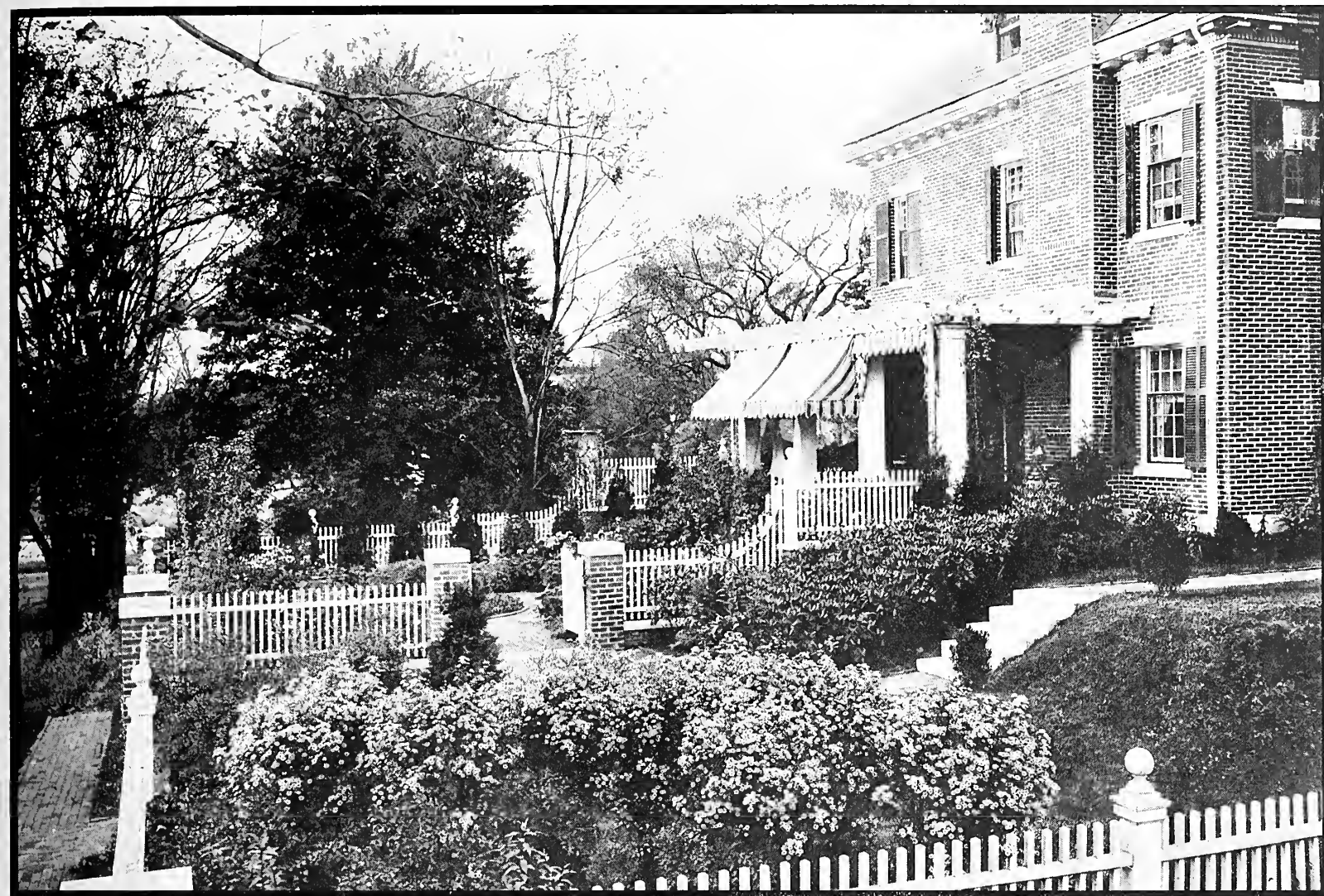
THIS is the story of a path, because on its location depended the development of the whole property—a path on a small suburban lot, connecting the front door with the street.

Such a walk is a necessity in daily use. It must be practical, dry under foot and as direct as possible. These reasons should not deprive it of interest and make it commonplace. The very fact that it is in daily use is all the more reason why it should have beauty inwrought in its making. While

considerations of beauty and the means of arriving at and departing from a front door are by no means the same, yet it will be found that they are not antagonistic. A solution which offers convenience can at the same time be beautiful.

The house had to be set high above the street level. To accommodate its shape to the long, narrow lot, it was built wide and shallow. For these reasons the necessity of facing the house upon an unpaved road which is only a right of way, and the impracticability of placing the entrance to the grounds on it, forced a less conventional solution than is usually possible. The direct communication with the main thoroughfare only a block away through a narrow street on the south side of the house, made it of practical importance to locate the entrance on this street. Still the problem remained of how to get from the street entrance to the front door in an interesting but direct manner.

The grounds are walled in along the whole southern side to avoid steep, grass terraces. This wall is surmounted by a white picket fence and broken in the middle by the entrance steps. One step up out of the street we stand on a small space in front of seven steps, which are closed in on both sides by the retaining walls of lawn and flower garden. Once up these steps we come



The view across the "ante-room," showing the fence that emphasizes the privacy of the flower garden. By a succession of steps is the visitor introduced to the grounds, passing from the street by feathery *Retinispora pisifera* and massed rhododendrons and cedars to the path at the top of the terrace which fronts the house

to a little vestibule or ante-room, if we may borrow the architect's terms. It is a little breathing space, a place pleasant to linger in. Masses of rhododendrons, with a background of cedars, face us. On the left the white gate opens into a short cut through the flower garden to the living-room; on the right, tall, feathery *Retinispora pisifera* specimens on either side indicate that the walk continues in that direction toward the front door. After we pass the *retinispora* sentinels we make a turn, and another five steps brings us up to the house level. This turn and the shrubbery around it hide one flight of steps from the other, and the level piece of ground between breaks into two short flights what might have been one long, tiresome as well as tiring flight of steps. Once on the house level, the walk runs along the whole front of the house.

Not only is this arrangement of the walk direct and attractive in itself, but it makes possible a considerable space of unbroken lawn between the walk and the east fence.

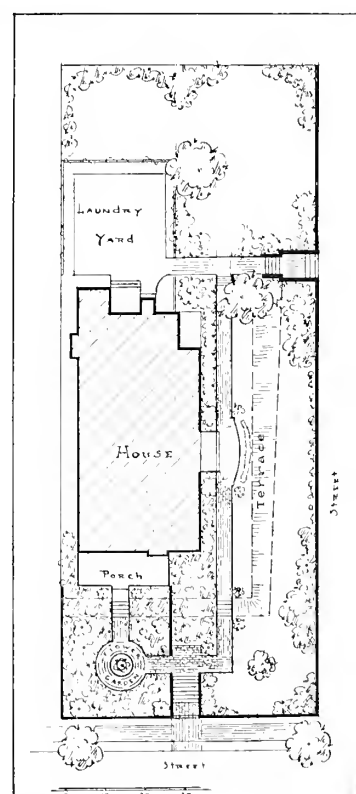
The solution seems so simple and appropriate that all the care, labor and study put into the planning for grading, for construction of wall work and steps is entirely lost from mind. It should be so. All study should be hidden behind seemingly unstudied naturalness. Such fundamentals, to which the planting—so important in itself—is added as a decorative feature, display the ingenuity of the landscape architect and show the practicability of employing him.

The path is laid in brick. Brick pavements have a permanent decorative quality and a warm color of special value in the winter effectiveness of a garden.

At the end of the path stands a maple tree—a piece of rare good luck to have it in just that position. Such a beautifully shaped old tree has a way of imparting some of its own dignity and distinction to the house and grounds near it. Its depth of shadow lends an indescribable charm, beside providing a strong contrast of shade to the sunny lawn.

The house is well orientated in relation to the various parts of the grounds. It faces east upon the lawn. On the south side is the living-porch facing the garden; on the north side, the kitchen, and cellar doors open on a lattice-screened and brick-paved enclosure used both as laundry yard and service court. A path, which joins at right angles to the path along the front of the house, connects this court with the roadway.

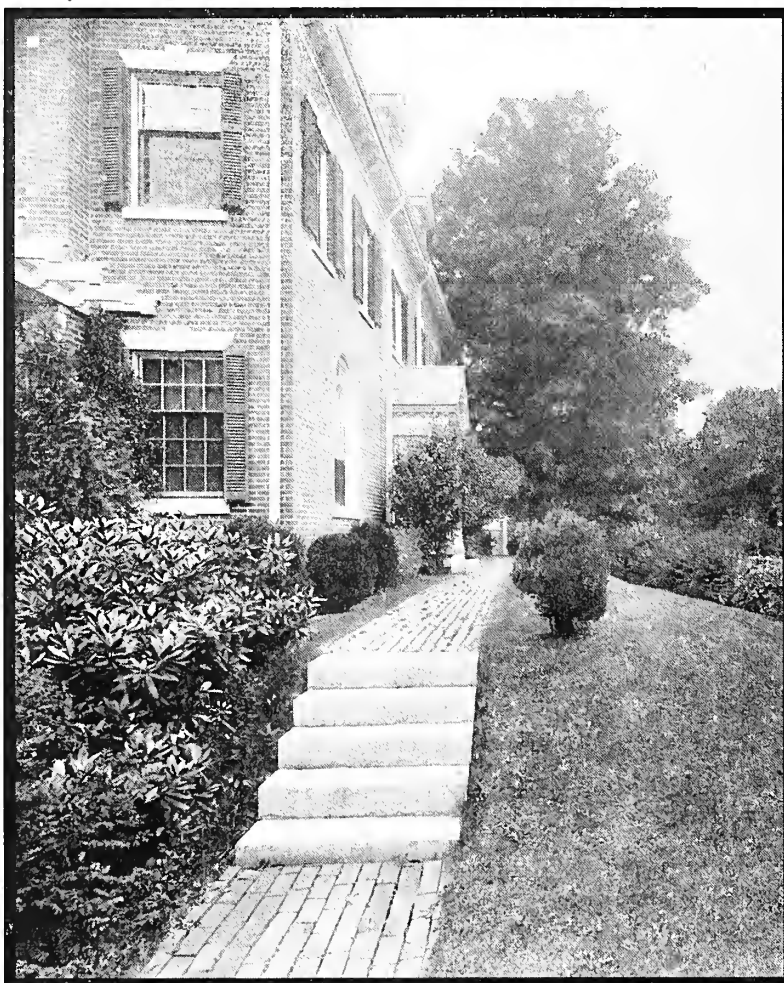
This service path is bordered by heavy and continuous masses



On the plan the relation of the path to the rest of the property is clearly shown

of shrubbery composed of groups of *forsythia*, lilacs and rhododendrons. The rhododendrons find an appropriate place in the shade of the maple tree. Next to them are the lilacs, their heavy, plain leaves harmonizing exceptionally well in color and texture with the rhododendron foliage, which is difficult to combine with deciduous shrubs. *Forsythia* foliage, as well as that of lilacs, retains its good, deep green late into the fall. Together they give three monthly periods of bloom, in April, May and June. The arching branches of the *forsythia* mould this shrubbery with the climbing Lady Gay roses on the east fence. In front of the roses are peonies. These two give two long periods of bloom. Peonies need isolation from other flowers for complete development, and are as valuable as a shrub in foliage effectiveness.

Next to the roses are poplars for height accent; then come groups of lilacs, *Deutzia lemoinei* and *Spiraea van Houttei*. Ranged along the



It is remarkable how large a small lawn will look if the planting is confined, as here, to the boundaries

fence, these groups balance the shrubs on the other side of the roses in effect of height and in succession of spring bloom.

This unbroken but irregular border hides the house from the street except where glimpses of doorway or arched window are seen through the branches. It gives a delightful informality to the grounds which characterizes so many of the older and larger Brookline places. Together with the shrubbery along the house it makes a complete frame for the lawn.

Andromeda floribunda was planted along the house under the windows. It is one of the most pleasing of the dwarf evergreen shrubs. The buds of its white flowers have a curious way of appearing all winter long as if they were just ready to burst into bloom, which helps to enliven the garden during the winter months. What happened to these plants I do not know, but the unfortunate placing of box bushes spoils the continuity of the border. The
(Continued on page 190)



The brick wall surmounted by the white picket fence is both practical and decorative, and adjusts the nice balance between garden privacy and the man outside



In order that the front of the house be not shut in and the lawn be given a free, open feeling, climbing roses are planted along part of the fence



Chicks a few hours after hatching ready for their first meal

Hatching Chicks With A Wooden Hen

THE SIMPLE PRINCIPLES OF INCUBATION—
HOW TO HANDLE THE MACHINE—THE KINDS
OF EGGS—CARE OF THE YOUNG BROOD

E. I. FARRINGTON

are complied with and the insurance offices are satisfied.

It is not wise to stand the incubator close to a door which is often opened, or where sunlight will fall upon it. Sometimes close proximity to a stone wall will keep one end cooler than the other. Stand the machine perfectly level, or the heat will not be evenly distributed; and have it so placed that the thermometer may be read easily at any time. In order to maintain an even temperature from the first, the incubator should always be started several hours before the eggs are placed within it. The machine is not ready for use until the thermometer can be kept at exactly 103 degrees. It is true that the mercury will drop low in the tube immediately after the eggs are put into the machine, but, as the eggs become warmed it will return to 103, although perhaps not for half a day. This delay need not be a source of worry.

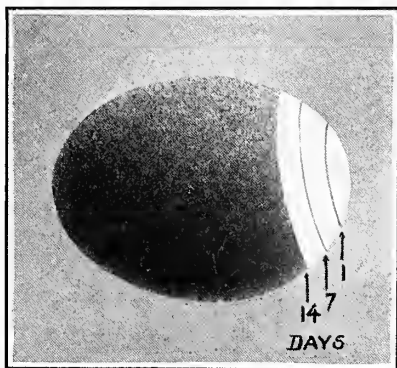
Many hatches have been lost because of imperfect thermometers. Curiously enough, too, when a thermometer goes wrong it is likely to be at a point between 100 and 105 degrees. It is only a wise precaution to have the instrument which is to be used first compared with the clinical thermometer of a physician.

The eggs must be considered, also. Eggs for hatching should be smooth, regular, of average size and strong of shell. It has been said that they should not be over ten days old, yet eggs which come from special hens or fancy stock may be set when two, or even three, weeks old, with an expectation of getting a satisfactory number of chicks. Do not put brown-shelled and white-shelled eggs in

the same machine, for, as a rule, the latter will hatch first. Fresh eggs usually hatch earlier than those that have been kept a long time, and when a high temperature is maintained, hatching begins quicker than if it is run low. All these factors tend to cause a little departure from the period of twenty-one days commonly given as the length of time required for hatching hens' eggs.

Some thermometers are made to touch the eggs, while others hang above them. The latter are preferable, for there may be something abnormal about the egg on which an instrument rests, resulting in a misleading reading. With a hanging thermometer the usual plan is to keep it at exactly 103 throughout the hatch, except that it may be allowed to run up to 104 or 105 while the chicks are breaking out of their prisons. When the contact type of thermometer is in use it is better to have the mercury register 101 degrees the first week, 102 the second and 103 the third.

After the eggs are in their chamber they need not be touched for three days, but the lamp must be filled and trimmed daily. It is well to have a regular hour for this work, in order to avoid any possibility of overlooking it. Practically the only danger which comes from the use of an incubator is the result of lamp neglect.



The air space in an egg should increase according to the scale shown here

IF it were not for incubators, someone has said, we should be paying fifty cents apiece for eggs, instead of fifty cents a dozen. It is a fact, at any rate, that the tremendous expansion of the poultry industry which the past few years has seen has been made possible in large measure by the perfection of the modern hatching machine. Not that these machines are really perfect: far from it. Yet the best of them are remarkably efficient, even in the hands of amateurs. And it does not pay to buy a second-rate incubator at any price. Price is not always the gauge, however. There are some very good machines at a moderate price. In most States it is possible to get reliable advice on the subject by applying to the State experiment station, where tests of the different machines are constantly being made.

One may buy an incubator with a capacity of but fifty eggs, or one which will care for many thousands. Much depends upon the number of eggs available at one time. If it is possible for the amateur to get out all of his chickens in one lot, he will find it a great advantage, for much extra work is involved when it is necessary to care for several broods of chicks of different ages. And yet that may not be possible with a small flock, for eggs which are to be incubated should not be kept over ten days. If his flock is a large one, even the amateur may be justified in installing a large, sectional machine, possibly one heated by a small coal stove. In most localities he can make it pay for itself by hatching eggs for other people or by selling day-old chicks.

With a large machine, an incubator house or cellar will be needed, but the average amateur will purchase a machine which can be accommodated in his house cellar. Such a cellar usually serves very well if it is properly ventilated and the air not too dry. It is very important to have an abundance of pure air, and many poultry keepers substitute a frame covered with muslin for one of the windows.

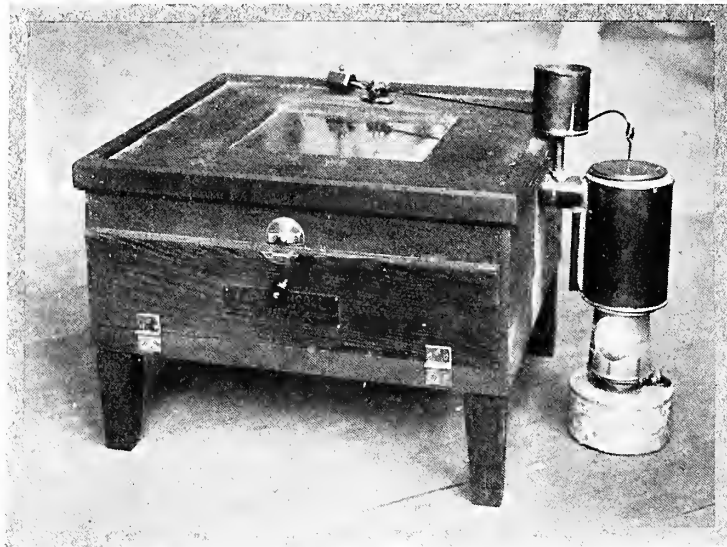
One point not to be overlooked has to do with insurance. If something goes wrong and your house burns down you will get no insurance unless a clause covering the use of an incubator has been written into your policy. It is true that the danger is very slight, and yet it is advisable to take no chances, especially as the cost is negligible. With some types the insurance charge is ten cents on each one hundred dollars; with others, twenty-five cents. The charge is always less for machines which bear the label of the Underwriters' Laboratories, Inc., showing that they have been passed by the experts of the insurance companies. Sometimes a flat rate of fifty cents a year is made, if certain conditions

The best way to trim the wick is to rub off the charred part with a match or a cloth. A new wick should be used for every hatch.

From the third day and until the eighteenth the eggs must be turned daily, and preferably twice—night and morning. If this is not done there is danger that the germ will come in contact with the shell, stick there and dry out. Turning does not mean that the position of the eggs must be directly reversed, but that it be changed somewhat. In general, they are rolled around in the tray with the hand. At the same time see that the eggs are so shifted about that they will have relatively different positions on the tray. Then, if there happens to be a variation of temperature in the egg chamber, all the eggs will develop alike.

While the eggs are out of the machine for turning they may also be cooled. It is probable that fair hatches can be obtained without cooling the eggs at all, but it seems to be a pretty well-established fact that stronger and better chicks are obtained when cooling is practiced. If the methods followed by mother hen are to be considered any criterion, both cooling and turning are important. Cooling tends to offset lack of ventilation and over-much heat in the machine. If by any mischance the temperature in the incubator should run several degrees higher than it ought to run, the damage which otherwise might result may often be avoided by removing the eggs and cooling them for an unusually long time.

Under normal conditions, five minutes are enough to cool the eggs at first, but the length of time may be extended to three-quarters of an hour when the three weeks are nearly over. Two rules may be of some value: return the eggs as soon as they feel cool when touched to the cheek, and return them to the machine as soon as the mercury has dropped to the 85-degree mark. Although the eggs may be turned twice a day, once is long enough to cool them, except for the time required for the turning process. Probably it



For the amateur an incubator capable of holding seventy eggs will suffice. This type heated by an oil lamp is simple of construction and easily handled



Between the third and eighteenth days the eggs must be turned night and morning. Roll them about gently on the tray so that each will develop thoroughly



Test the eggs by placing them between the eye and a strong light. An infertile egg will appear clear, a dark spot, with radiating red veins, indicates life

is needless to say that the door of the incubator should be kept closed while the eggs are being cooled.

There is no occasion for alarm if the operator happens to forget the eggs and leave them out of the machine for an hour or more, especially during the latter part of the hatch. There is lots of life in a partly formed chick, and the egg may become thoroughly cold without doing serious harm, if a little extra heat is given afterwards.

When the eighteenth day arrives, the eggs should be cooled and turned for the last time. Under normal conditions, with brown eggs in the machine, all the chickens should be out of their shells by the end of the twenty-first day. Chicks in white eggshells may emerge eighteen hours or more earlier.

As a rule, the machine will do its best work if the door of the egg chamber is not opened after the eggs have been pipped until all the chickens are out of their shells. There may be a great temptation to help some of the struggling youngsters; in fact, the novice is pretty certain to feel that he is not doing his duty unless he aids the more backward chicks in escaping from their cells. Experience shows, however, that this is a mistake. Unless a chicken is strong enough to get out of its shell unassisted it is not worth raising, and if the machine has been run properly, with an abundance of moisture, the chicks will fairly pop out of their shells, breaking in a ring around the middle. This is the desirable procedure; in point of fact, many hatches drag through several hours, often a whole day and longer.

When ducklings are hatching it may be worth while giving them a certain amount of assistance. The shells are very tough, and ducklings which I have helped into the world have seemed just as strong and lively after a few days as those which required no assistance. With chickens, though, it is better to keep the door closed until the hatch is over, although if the air inside seems very dry and the ventilation poor, the door may be kept open a crack by the

insertion of a match, which will at all times afford sufficient air.

If the incubator stands in a light spot, it is well to cover the glass with a dark cloth at hatching time. Otherwise the youngsters will crowd to the front and fall down into the nursery before they are fully dry. The temperature in the nursery may be just right for a chicken that is perfectly dry and moving around, but uncomfortably cool for a wet chick that has scarcely found its feet.

Twenty-four hours is none too long to leave the chickens in the incubator after they are out of their shells, but many poultry keepers open the door a little without changing the lamp, by which means the little fellows are gradually prepared for the shift from incubator to brooder. It is a good plan, in any case, to take out the egg tray with its accumulation of shells, leaving the chicks in the nursery. If there is no nursery, the shells may be removed and the tray left.

With a successful hatch, almost every egg in the machine on the eighteenth day should produce a chicken. There will be fewer eggs on that date, however, than when the incubator was filled, for some, and perhaps many, of them will have been tested out. This testing of the eggs is found by the amateur to be one of the most interesting features connected with hatching chickens with a wooden hen. It offers a peep into some of Nature's mysteries and helps the operator to realize the wonderful transition going on quietly within each little shell. If the eggs have white shells the first test may be made on the fifth day, but with brown-shelled eggs it is better to wait until the seventh day, as they are less transparent.

Testing is done by placing eggs between the eye and a strong light and excluding all other light. The kind of tester which comes with the average incubator is an elongated tube large enough at one end to cover both eyes and narrowing at the other end to an opening slightly

smaller than an egg. The eggs are placed one by one in front of the tube and close to a fairly strong light. An infertile egg will appear perfectly clear, like any fresh egg. If the egg contains a living chick there will be a small, dark spot and little red

blood vessels or veins radiating from it. A black spot without the veins indicates that the egg was fertile, but that the germ has died. An egg in which the contents are loose and mixed together is addled. An egg like the latter is more likely to be found when hatching duck eggs than when eggs from hens are being incubated.

It is customary to make a second test a week after the first, as there may be more eggs with dead germs in them. All the clear eggs tested out on the fifth or seventh day may be saved and boiled for the young chickens. They are often used by bakers and sometimes are sold in the public markets. Of course, they cannot be considered fresh, but neither can they be classed

as bad. An infertile egg never becomes really rotten.

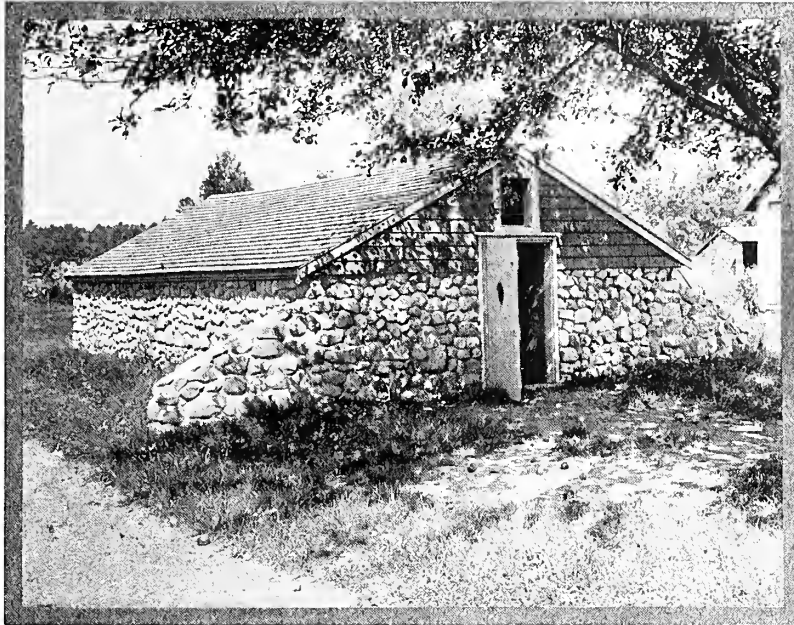
The amateur sometimes finds it an excellent plan to set several hens at the time he starts his incubator. Then, when the infertile eggs have been tested out of the machine, they are replaced

with those from under the hens, after the latter eggs have also been tested. In this manner it is possible to bring out a much larger number of chicks. And it may be said in passing that it always pays to test the eggs when hens are being depended upon, as well as when an incubator is in use. The hen doesn't mind, and the risk of having a bad egg broken in the nest is avoided. Also, if several hens are set at the same time, some of them can be liberated when the infertile eggs

are tested out, as fewer birds will be required to cover the eggs that remain, unless, indeed, they are exceptionally fertile eggs.

When a considerable number of eggs is to be incubated a more

(Continued on page 197)



On a large place an incubator cellar will be found more practical, centering the work in one place and avoiding the possibility of a fire in the house



Care should be taken that the incubator be placed away from a stone wall and on a level, otherwise the heat will be unevenly distributed and the growth of the chicks retarded



Permanent coldframes made of cement are advisable for both the large place and the small

PERENNIAL USES FOR SASH—TRANSPLANTING SEEDLINGS—THE LOOKOUT FOR PESTS

D. R. EDSON

Photographs by R. S. Lemmon

THE first part of March may offer a breathing spell if you have your hotbeds made and your coldframes in shape. But before you sit down and fold your hands, check up all the things that have been mentioned in these articles during the last two months. See if you have made every possible preparation for the rush that is sure to come with the arrival of spring.

One thing, however, cannot be neglected even for a single day—the hotbed. After every snow the sash should be cleaned off unless, as seldom happens at this time of

windy, ventilation should be given. As the sash may be lifted at either end or at either side, air can always be let in in such a way that the wind will not blow directly through the opening, which might chill the plants enough to injure them, or, if the wind happened to be strong, tip a sash over and give you a lot of repairing to do.

The height to which the sash may be raised will depend upon the temperature, the wind and the condition of the plants for which you are caring. For this purpose make as many notched sticks about 18



Before transplanting seedlings, firm the earth gently about them with the fingers



Give the pot-bound plants a new lease on life—a larger pot affords more room for their roots

the year, exceedingly cold weather ensues, when it may be left on for a day or two as a protection against the cold. On bright days, unless they be very cold and

inches long as you have a sash, which will hold the sash in any position desired. If you have left the mats on at night and a rain comes, be sure to hang them up where they can



Lift the seedlings out on a small slab of wood, which also serves as miniature trowel



Until the days grow warmer, care must be exercised in watering the cold frames

Find the time some Saturday this month to get stakes and boards, and put up a coldframe to which you can transfer any sash you may need through the season in their present position. As the warmer weather comes you will have no further use for the sash which have been over the frames that were set out to lettuce, radishes, carrots and beets, or any in which hardy plants, such as cabbage, cauliflower, beets or lettuce, may be growing, if you have not put them in flats. Instead of simply putting the glass sash from these frames aside, you should have a frame ready where they may be used a second time over cucumbers, melons, beans and similar things. For this use, the glass sash may be bought a couple of weeks sooner. Make some frames the same size as the sash and cover them with plant-protecting cloth, which costs only about thirty cents for enough to cover each frame.

During March, about four weeks after the seeds of beets, cabbage, lettuce and cauliflower have been put in, the tender things such as tomatoes, eggplant and peppers, should be started. There is little danger of getting the temperature too high until they are well up! At night, 70 degrees will not be too much if you have a place where they can be kept as warm as that, and during the day, 10 or 15 degrees higher may be given without getting it too warm. In such a temperature, of course, the soil tends to dry out very rapidly, particularly in flats; and as the weather also is much brighter than it was a month ago, you will have to be careful to see that the soil never gets dried out. It may prove fatal to the sprouting seeds. And it is even more important than it was in the case of the early seeds to have a very light, fine soil to plant them in; it can hardly be made too light and dusty.

Plants will be growing much more rapidly now than when they first came up, and care must be exercised not to let the little seedlings wait too long before transplanting. All those sown last month should be transplanted the

dry out thoroughly the next day. When pulled off and thrown in a heap they will probably be frozen stiff the next time you may want to use them.

first part of this month. So soon as the second or third true leaves begin to show they will be large enough to handle conveniently. If you intend to



The deeper you dig the garden, the better; but whether you dig with a wheel-hoe or with a spade, digging is no slouch job

which is clayey enough to have a tendency to be sticky; add some sand, and, if necessary, some leaf mould and chip dirt, but usually these will not be required, especially for the early vegetables. It is always best to do the transplanting out of the direct sunshine, and if it must be done in the open frame, it is advisable not to do it in the middle of the day should it happen to be very sunny. If the soil is at all dry, give the flats a thorough watering the day before you transplant. Immediately after transplanting give them a watering with a fine spray (not applying very much, however, if the soil was watered the day before), and keep them in some place out of the sun or covered over with

newspapers during the warmer hours for the few days following. Should conditions of soil and temperature be right, the roots will take hold and establish themselves very quickly in their new surroundings.

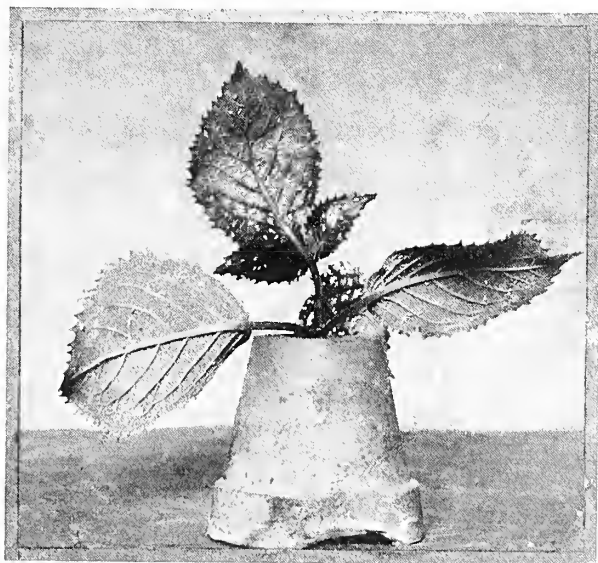
In transplanting, the plants should be put about two inches apart each way. They can be put a little closer and still make very good plants, but nothing is to be gained by crowding them. A dozen good plants will yield more, and yield it sooner, than twenty-five poor ones.

What has been said about giving fresh air and plenty of it to the crops planted in the frames applies equally well to the transplanted seedlings. Those that begin to run up tall and spindling, or the leaves of which look light-colored usually need air. If

(Continued on page 187)



So soon as the soil in the frames is ready to work, it should be made rich and mellow



Keep an eye open for aphids; a few days' neglect and they will be beyond control. Use tobacco dust or a strong nicotine spray



Though a few trees had to be destroyed and some transplanted, an old-fashioned setting, perfect for such a house, was created

*The Residence of Mrs. Allen
J. Smith, Radnor, Pa.*

FOR the establishment of her residence the owner selected a property among the rolling hills of Radnor, and chose the orchard of an old farm for the setting of the house. While this cost the destruction of a few trees and the transplanting of others, the spoliation was repaid when the house was finished, for, surrounded by foliage, it immediately took on a comfortable, old-fashioned look.

Furthermore, near the orchard ran the entrance road to the old farm house, lined on each side with old trees whose leaves and branches met far overhead. The road continued past the boundary of the present property, but, by removing one tree, this road was diverted to serve the present



Leading off the dining-room, which is comfortably formal, is a sunny breakfast porch, curtained and glazed in winter



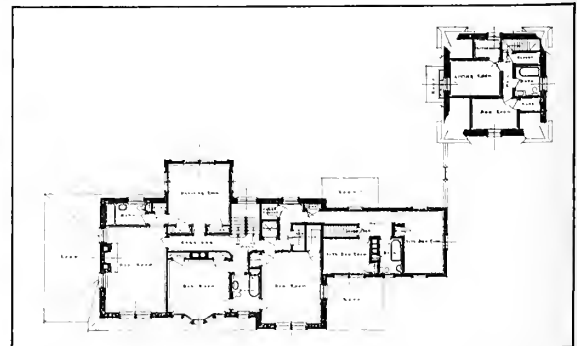
The long-paneled vestibule hall opens vistas on the living-room with its sun porch beyond



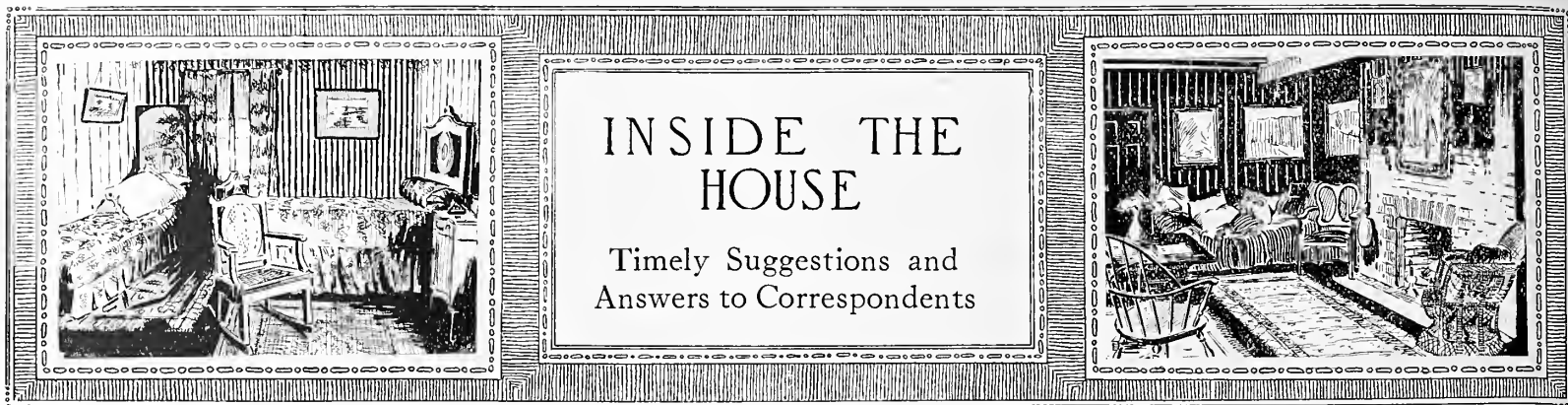
With a pent roof above and trellises on either side, flanked by the little casements, the entrance has an air at once strikingly individual and invitingly formal

house and garage. Its one-time direction is now gone, but, with only a new roadbed and top coating, the present approach has all the appearance of an ancient road beneath the old trees.

The problem of compromising the various demands of orientation, view and practicality in designing the house was reduced to a mini-



A generous dressing-room completing the mistress' suite is one of the developments of the second floor plan



A Practical Flower Box

THE reason why many people fail with their flowers inside the house, and even in window boxes, is because the plants are not set in a receptacle that permits sufficient watering and proper drainage. Either they overwater and the soil becomes soggy, which leads to rotting of the roots, loss of plant food and consequent poor health for the plants; or else they underwater and the plants suffer from the lack of moisture. The most practical plan is to feed the water into the bottom of the box so that the roots can absorb as much moisture as they need and not be floated in a soggy soil, for roots are like the horse that you lead to the trough—they'll drink their fill and that's all.

There is being shown a box that is nothing more than a greenhouse on a small scale. It has a patented bottom which gives the plants perfect drainage, and at the same time does not leak. The water receptacle runs full length of the box and gives the roots a plentiful supply of clean water. It is made of galvanized steel, enamel dark green on outside, and will last for many years.

It can be set on the window-sill inside or hung from the window on outside, or fastened to rail on any part of the piazza. It gives the perfect drainage so necessary for the growing of plants, and at the same time will not leak or drip and damage the woodwork.

The Care of Curtains

WITH spring cleaning comes the necessity of caring for the curtains and draperies that have done service through the winter months and must be made ready to store away until they are needed again in the fall. All draperies should be thoroughly cleaned before being put away for the summer, for dirt and dust will rot even the strongest material if allowed to remain in it for any length of time. There are several easy ways to clean the most delicate curtains, but the most satisfactory method of washing white ones is to place them in a bag made of cheese cloth or mosquito netting. Let them soak in warm, "sudsy" water made with a pure, white soap for about thirty minutes; apply more soap and rub the

bag and its contents gently through the hands. Rinse in clear, warm water and again in cold water to which a little bluing has been added. Squeeze the water out with your hands; do not wring. Lacking a curtain frame, lay a clean sheet on the floor and stretch the curtains on it, pinning them at frequent intervals along the edge. Take care to pull the lace edges, if they have them, out smooth, and pin them securely to the sheet. When the curtains are dry they will look like new.

Heavy draperies should be hung on the line on a windy day and beaten as you would a carpet, but not so hard. When the loose dust is out they can be laid on the grass and the spots removed by scrubbing them with gasoline to which a small quantity of soap powder has been added. If they are badly soiled, wash them in gasoline and soap powder, rinse in clean gasoline and dry in the open air. Sprinkle powdered camphor balls between the folds of heavy draperies when packing them away for the summer, and wrap them in newspaper to avoid any danger of moths. It is said that blotting paper wet with oil of lavender is an excellent preventive of moths. If this is used it will impart a delightful perfume that will prove very pleasing when the curtains are called into service once more.

A Revival of Sconces

THERE are many occasions when the country dweller who cannot avail herself of the conveniences of gas or electric lighting wishes for suitable wall brackets that are at once decorative, simple and serviceable. For such needs come reproductions of Colonial tin sconces, shown in illustration here.

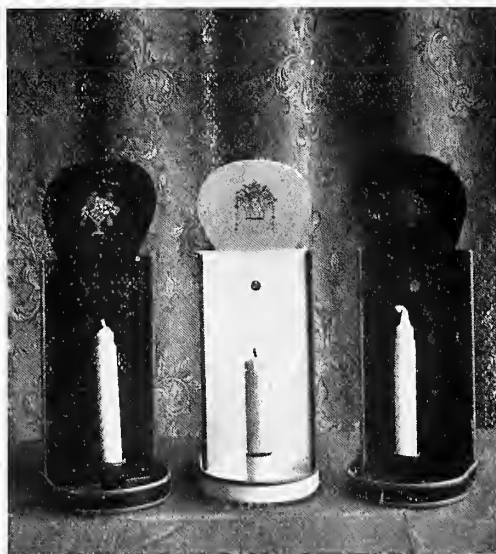
They consist of an oblong back that acts as a reflector and shields from the slight draught; a semi-circular base with a socket for the candle; and above, a flange bent over at a slight angle to reflect the light further. All the edges are turned to a seam over heavy wire, giving a substantial, rounded finish. There is a hole in the back by which they may be hung on the wall; the base is sufficiently solid to permit their standing upright on table or mantel.

Though painted in various colors, the most attractive is in black, with edges of green or dull orange, with the decoration on the top flange, employing the same tones. The design of these little decorations are supposed to repeat the design of the chintz used in hanging and covers in the room. Thus, one charming type is decorated with a green vase filled with vari-colored flowers, and, atilt on the edge, two yellow birds. Another is painted white and striped with green edges, and at the top a lattice basket overflowing with old-fashioned flowers. This is particularly appropriate for a Colonial bedroom. Still another striking example has a white background, black-striped edges, and on top a large bird swinging on a circular perch. It is from the futurist designs of the new chintzes that many of these sconce decorations are taken.

It must not be supposed that such sconces have only a utilitarian value. In a small hall they make by night an attractive temporary light, and by day are invariably decorative. Again, a pretty group may be made by placing on either side of a black-framed mirror striped with colors, one of these sconces with the decorations repeating the colors on the frame of the mirror.

Mostly Vanity

EACH season brings forth something new in the way of furnishings that are intended to add solely to the joy and



Decorated tin sconces, reproductions of a Colonial pattern prove both serviceable and ornamental

convenience of capricious woman, and this year comes a vanity box wonderful in construction and decorative in design. The idea of the permanent vanity box—as compared with those one can carry about—is very old. The ladies of Louis XVI's time possessed intricate affairs made up from little block-printed chintzes, and from these the inspiration for the modern reproductions has been caught. The older type, however, was not always so out-and-out in its purpose; its exterior gave little promise of the contents. It looked like a calf-bound volume, delicately tooled with gold, about twelve inches long, ten wide and three high, a most learned and forbidding tome on the whole. It was placed on the library table, but *les belle dames* knew what lay hid within, and, unsuspected, they could prink and powder.

Nowadays we are more obvious, and the vanity boxes shown in illustration look their part. They consist of three compartments designed to hold toilet necessities; a little mirror can be raised up, two candles providing sufficient light for milady's face. Quaint and simple as are the exteriors of the boxes, their exterior decoration may be made as elaborate as one wishes. One has a dainty Peroylise design; another is along a Chinese pattern on black lacquer. The colors are rich and warm, and, whether the boxes, closed or open, they give it great decorative value.

These cases may be placed in an entrance hall of the country house or in the room where ladies place their wraps when one is not using the bedroom for that purpose; moreover, a hostess, in providing toilet material in this manner for her guests, precludes the necessity of their using hers. In a country club they would prove of excellent service, for they can be of as much use as they are beautiful.

A Tabby-Cat Chair

THE past few years have seen a decided and most certainly welcome improvement in the form of furniture for children. Just as at one time children had to content themselves with sitting in the chairs of their elders, so another generation relieved the inconvenience of these little tots by making diminutive reproductions of their grownups' furniture. In recent years, however, designers have been even more thoughtful for the comfort and interests of children, finding that just as a middle-aged man prefers a wing chair, so does a child take naturally to a chair that was created especially for her age and size.

Among the many interesting pieces of furniture for children being shown in the shops is a black tabby-cat chair, reproduced here in illustration. Quite apart



For the nursery, or home school room, a tabby-cat chair might be found attractive

from its quaint attractiveness is its practicability. It sits solidly on the floor and cannot easily be rolled over because of its broad bases, or knocked over because of its well-balanced weight. The long tails of the cats curl up to form a brace for the comfortable back. The seat and back slats are painted white. As an adjunct to the child's room, and especially to the home schoolroom, the value of this chair will be appreciated both by children and parent.

Madagascar Cloth

WHEN the bungalow, porch or den needs a touch of color do not forget the Madagascar curtain material, which comes in such vivid stripes of orange and buff, magenta and buff, in five-inch stripes, separated by fine lines of green, purple or black. The material is woven from dried Madagascar grass, which takes and keeps the brilliant colorings, and also furnishes a natural fringe as a finish. A pillow or two covered with this material, a couch cover, a table cover or curtains are guaranteed to cheer up the dreariest of rooms or the dreariest of days. The plain Madagascar cloth—buff—has the same light, springy effect that willow furniture possesses, and is, besides, a good "dirt color" for any use where brilliant

stripes are not desired. Two curtains sewed together will make a very acceptable summer couch cover.

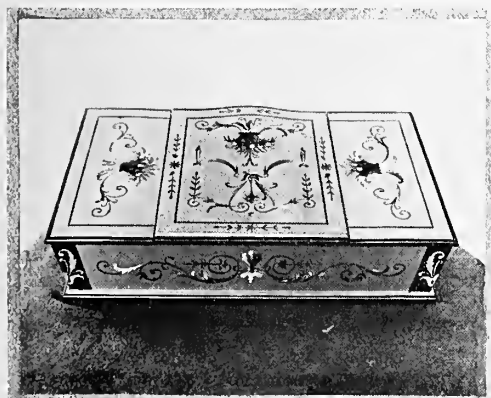
The Unusual in Table Linens

MORE than ever are hostesses on the search for new things that will make their tables attractive, and the shops are trying to appease this desire not only with new articles and materials, but with striking adaptations and combinations. One can tire of fine damask however costly it is, and at the present time it would seem to be used less and less. For the dinner table, a fine damask cloth is still unsurpassed, but for breakfast, luncheon, tea, supper and receptions less usual and conventional covers are in vogue.

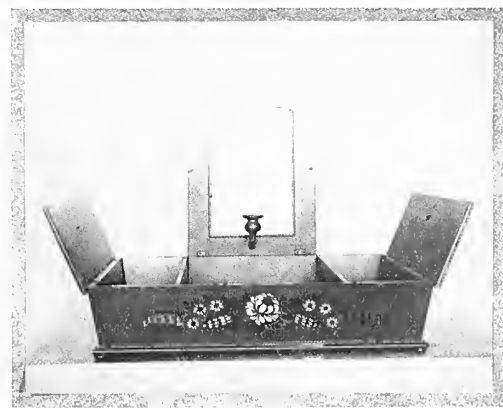
Small squares of Russian crash with simple peasant patterns and monograms in blue or green or yellow to match the breakfast service are being used. If there are but two persons at the table, a runner may be used made of Italian linen edged on either end with heavy crochet lace of conventional design, the side edges being done in blanket stitch with the hem turned over on the right side. This makes a serviceable and unusual cover. Many old Italian covers are characterized by this blanket stitch hem. If the crochet lace is of Italian design, distinct style is given the cloth. With such a cover use for center-piece a bowl or vase of Italian pottery.

Large supper cloths can be made of this same Italian linen. Here again the blanket stitch is used on the edge, with the stitches grouped in threes. At each corner can be inserted an Italian reticella square, and around it a simple Italian design. Always keep the stitches consistently Italian. At the corners fasten a long tassel of heavy linen thread. With this cloth use oblong napkins half the width of the ordinary napkin. They are unusual and quite as serviceable as the ordinary accustomed shape, being large enough to protect the lap and not too large to prove in the road. They can be decorated by putting a small reticella square at one end,

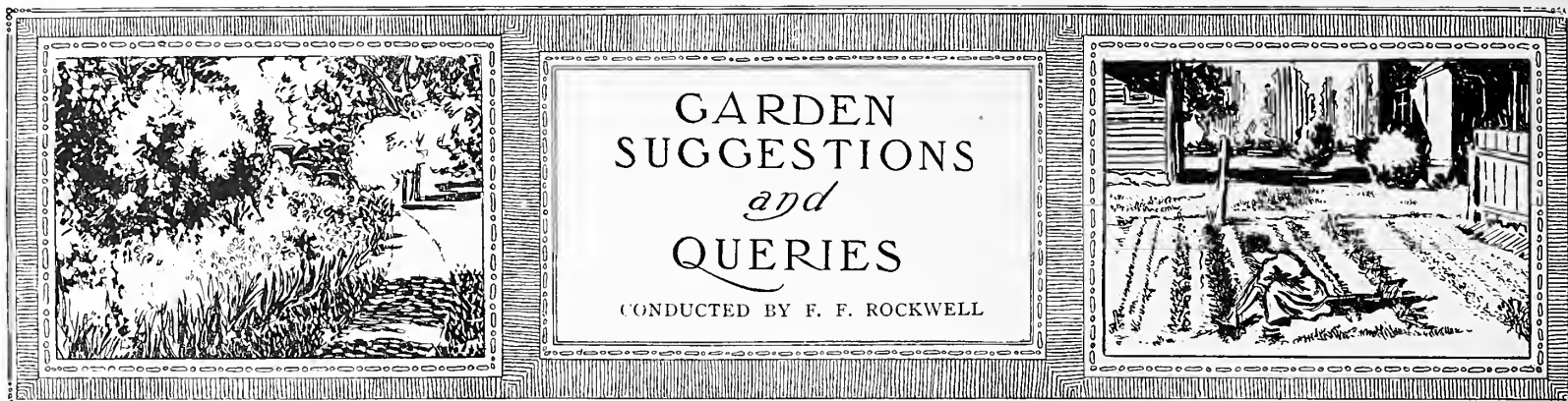
(Continued on page 210)



Closed, the modern vanity box is unpretentious and bears no indication of its purpose



Opened, there are displayed mirror and toilet necessities sufficient for a momentary prinking up



PUT a red mark around March 1 on your calendar to remind you that you have but a month—four short weeks—left in which to get everything ready for the “spring opening” of April. When the snow drives and a northwest wind makes you turn up your coat collar and hasten to the shelter of the house, it may seem that spring is a long way off; but this is only winter’s final presumptuous bluff, and maybe by afternoon, out on the sunny side of the barn the warm sunshine will trickle down the back of your neck until your coat peels off.

There may be some things left that must be done before the sap starts. Look up the suggestions given in these pages last month. If you have not already attended to this work on your own place, do it now! This will be the last chance.

Set Out Small Fruits this Spring

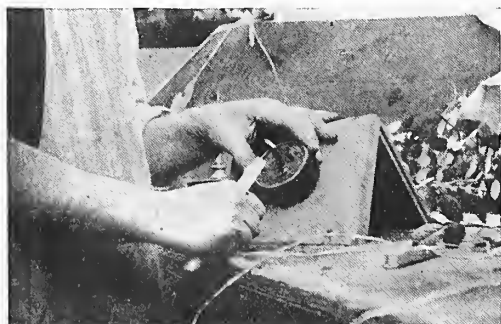
Unless your place is thoroughly well stocked with the various small fruits, plan now for what you will want to set out this spring. These will take up comparatively little room, and none of the garden’s products are looked forward to and enjoyed more than June’s strawberries and summer’s blackcaps and raspberries and fall’s sugary grapes. Moreover, any surplus of any of the small fruits need never be wasted. Whoever heard of too much raspberry jam or too many currant dumplings in winter? Corners, wall, house-sides, etc., may be taken advantage of for growing the small fruits if your garden space is limited. Go over your garden carefully and mark down on the garden plan you made last January just how much space you will want to devote to small fruits. Then indicate on the sketch the number of each of the various fruits—

raspberries, blackberries, dewberries, currants, grapes, strawberries and dwarf fruits, apples, pears, etc., you plan to set out. If you find you cannot get them all this year, plan for them just the same. Then get what you can, maybe one or two or a half-dozen, as the case may be, of a kind, and leave room to put in the rest next year or the year after. Five dollars or ten dollars a year judiciously laid out for two or three consecutive years will result in a fruit garden capable of supplying the average family with a generous supply. Do not allow yourself to be tempted into buying altogether wonderful new varieties of the small fruits. Good new kinds there are. But it is always safest to select only, or mostly, kinds which receive the recommendation of more than one seedsman, and which have been out at least two or three years. The best varieties of the new fall-fruited strawberries are practical and very good, but you will probably be disappointed in the yield unless you take the precaution of removing the first crop of blossoms, which isn’t such a big task on a few dozen or hundred plants. The new St. Regis “Ever-bearing” raspberry differs distinctly from the older sorts and ripens fruit in the fall on the new canes. Ranere is a sort very similar to, if not identical with, St. Regis. Among the newer strawberries, Early Ozark and Fendall are very fine early and late sorts, respectively. Among the grapes, beside the well-known standard sorts, such as Concord and Delaware, Lindley, an ex-

tra large, sweet, red, and Pocklington, a delicious, juicy golden, will undoubtedly claim a place for themselves as they become better known. All the small fruits will do well in average garden soil, provided there is good drainage. As a rule, it will pay best to order first sized plants of the small fruits, as the difference in price does not amount to a great deal, and results are quicker.

Work in the Greenhouse

This month and next there are plenty of activities in the greenhouse to occupy fully all the indoor time enforced by inclement weather. If any Easter Lilies are being forced they should receive special attention from now on, being forced ahead with higher temperature and liquid manuring or held back if they seem too far ahead. The latter is seldom the case, however, and it is much better to have them a little too far advanced than lagging behind. If you have no roses growing in the greenhouse, get a few plants, dormant, from your seedsman, or out of the garden, if there are a few that you can spare, and give them a rich soil and a warm corner, with plenty of water after active growth begins. Plants of all kinds which flowered through the winter, and which have been resting for the past month or two, and plants which remain nearly dormant through the winter, such as palms, should be started into more active growth now. Re-pot where necessary, using for most things pots one or two sizes larger than those in which they have been growing. Some plants, such as palms and other fine-fibrous things, do better with a comparatively restricted root room. Azaleas should be started into



A strong-growing Manetti stock, cut ready for grafting



Too much old wood here; it should be cut back



Tying the graft rose in place on sturdy root stock



A Rambler that would bear a good deal of cutting back



Uncut it blooms scatteringly and at the expense of the individual blossoms

active growth from four to six weeks before Easter, depending on the varieties and the forcing conditions.

Bulbs of various kinds, including, besides those started last month, cyclamen and gloxinias, should go into pots now, and be kept in active growth until they may be put out in the frames. It is not too late yet to gain a good deal by starting your cannas, dahlias and tuberous begonias, in moss or leaf mold, and potting them up as soon as they are well started. The dahlias and cannas are not so particular about the kind of soil in which they are potted up, but for the others a very light, rich compost, containing plenty of rotted manure, fibrous material and a little sand, should be used. Cow manure, if thoroughly decomposed, is preferable to horse manure. Be careful to water only lightly until they become established.

The cuttings taken from plants in January and February will be ready for "potting off" during this month. A good, fibrous loam, with a little sand added if it is not friable enough, and enriched with bone flour, will answer for these. Don't let the plants stay in the rooting box or bed too long; the roots shouldn't be over half an inch at most, and half that is plenty. Put them well down in the pots and make them firm by tapping the bottom of the pot firmly against the bench before pressing the soil about them with the thumbs. Keep shaded from the sun and syringe daily for a few days after potting. The pots should be partly sunk in soil, ashes or moss, to keep them from drying out too rapidly, as they will invariably do on a bare bench bottom. Cuttings that may be wanted in some quantity, such as carnations for next fall's plants or coleus or sweet Alyssum or salvia, for borders or masses, may be put in flats instead of potted up, and will make strong, sturdy plants for setting out if they are properly looked after.

Keep a sharp lookout for insect troubles of all kinds. Sprinkle tobacco dust around the plants. Plenty of fresh air and regular watering will go far toward preventing

any trouble from such sources. The green aphid is the pest most likely to cause trouble. But even after it puts in an appearance it may be successfully got rid of by the use of nicotine in the form of a spray or fumigation. The "mealy bug" will succumb to alcohol and a small brush.

Spare the Knife and Spoil the Roses

The most important of all the jobs in the rose garden is the spring pruning. And it is one which many people neglect, either through ignorance or because they just can't bring themselves to be so hard-hearted as to do it the way it should be done. As a general rule, I would be willing to state that the more a rose is pruned, the better! But, like most general rules, this one has a number of exceptions, even among the "garden" roses, to which it is meant to apply. The hardy sweetbrier hybrids and the hardy climbing roses of the Rambler class need very little pruning, except to cut out old or broken wood, and perhaps shorten back a too-ambitious spray or a winter-killed tip here and there. The rugosas, which grow rank and throw up too many canes, need an occasional thinning out, but no pruning in the sense

in which it applies to the garden roses, the teas, hybrid-teas and hybrid perpetuals.

Before you begin the job of pruning your roses you should settle in your own mind what you want them to do for you: whether you want extra fine and large flowers, at the expense of number, and the natural, graceful appearance of the bushes; whether you would rather have a medium number of flowers of medium size, or whether you would prefer to have the bushes themselves in bloom as ornamental and full of flowers as possible, even if the individual flowers weren't quite so large. The more severely you prune, the larger and fewer flowers you will have. For ordinary purposes the second system is probably the most satisfactory. As soon as it is safe to remove the winter mulch in the spring, and the leaf-buds begin to swell, begin with the hybrid perpetuals, which are the hardiest sorts, and cut out all but a few of the strongest canes on each plant. These should be cut back to only a few buds or eyes on each if large flowers are wanted. For general garden culture they should be cut back a half to two-thirds of their length. The teas and hybrid teas and the weaker-growing varieties of the perpetuals should be pruned even more closely. The cut should always be made above an outside eye, so that the new sprout from it will grow outward, keeping the bush to an open form.

Spring Painting Hints

It is remarkable what a difference a can of paint can make in rendering the garden presentable, even when applied by an inexperienced person. For such a one here are a few hints: wash all surfaces clean before painting; rub down all rough or cracked surfaces with both coarse and fine sandpaper; have your paint thoroughly mixed—this may seem impossible, but persistent stirring will accomplish wonders. Whenever possible, place the freshly painted article out of reach of flying dust. And don't forget to keep your brushes in oil when they are not in use.



These few tools will be found sufficient for early Spring operations



EDITORIAL



THE BALANCE OF ANIMATE NATURE

FACTS set down boldly have an inexplicable attraction — even disjointed facts. But when one can pick out two fact items, place them side by side, the reader is often astonished to find not only a singular relationship, but each appears the more important for that relationship. Thus, it is an astonishing fact that the annual loss to plant industries of the nation and to forests through pests ranges between ten and twenty per cent, is valued at \$500,000,000, and causes an annual expenditure of between \$7,000,000 and \$8,000,000 for spraying machines, spraying solutions and labor.

It is also an astonishing fact that between 1840 and 1910 eleven species of valuable wild life were totally exterminated in the United States; that twenty-five others are candidates for oblivion, and that in one State alone—Ohio, which was once abundantly stocked with a great variety and a great number of game birds and mammals—fourteen species have become extinct, and eight species of valuable birds are reported to be threatened with extinction, one of them being the quail, the most valuable bird influencing the fortune of farmers and fruit-growers of North America.

Between these two bare lines of statistics there may seem to be no relation until one considers the services of the quail. For the facts, turn to a volume by William T. Hornaday, "Wild Life Conservation in Theory and Practice"—a book that should be in every sportsman's hand.

"It is fairly beyond question that of all the birds that influence the fortunes of the farmers and fruit-growers of North America, the common quail is the most valuable!

"It remains on the farm throughout the year. When insects are most numerous, bob-white devotes to them his entire time. He destroys them during sixteen to eighteen hours of the summer day. When the insects are gone he turns his attention to the weeds that are striving to seed down the farmer's fields for another year. He consumes, as palatable food, the seeds of 129 species of weeds; and the quantity that one bird can consume in one day is almost beyond belief. The thousand seeds for one bird's daily ration is a small quantity and far below the average of what a healthy adult bird requires. To kill weeds on the farm costs money—hard cash that the farmer has earned by toil or labor of cash value which he himself bestows. Does the average farmer ever put forth any strenuous efforts to protect from poachers and other enemies the quail that work so well and so faithfully for him? The exceptional farmer does; the average farmer does not.

"All that the average farmer thinks of the quail, even those in his own coveys, is as so much meat for his table.

"A list of the 129 species of weeds whose seeds are eaten by the bob-white looks like a botanical rogues' gallery. Conspicuous in it are such old enemies as the pigweed, smartweed, beggartick, foxtail, burdock, barnyard grass, crab grass, ragweed and plantain. It has been calculated that if in Virginia and North Carolina there were four bob-whites to every square mile, and each bird ate one ounce of weed seeds per day from September 1 to April 30 the total amount consumed in those two States would be 1,341 tons.

"As a destroyer of insects it would seem that the common quail deserves the first place. We know of no other species whose appetite covers so wide a variety of insect food. It is known that this bird consumes 145 different species of insects,

and the list includes all the notorious insect pests of the farm and orchard save the few that live and work high up beyond the reach of a bird that lives on the ground. However, the quail's repertoire includes the codling-moth, the garden caterpillars, flies, mosquitoes, plant-lice, cotton-boll weevil and a host of others."

All of which brings us around to the original figures given at the head of this editorial—that from ten to twenty per cent loss is caused to crops every year, loss that was unknown forty years ago, loss that man must suffer because we have prevented, through our wilful destruction of wild life, the maintenance of the balance of animate nature.

This balance is all a part of Nature's scheme for having a place for everything and everything in its place. When the balance is broken someone must pay. In this instance man pays, pays heavily. And so, on our pages of HOUSE AND GARDEN you find a strange contrast—articles that give directions for spraying and articles that give directions for preserving bird life. In the former we are valiantly trying to supply a defect that the loss of the latter incurs, striving to keep up a balance that Nature, were she permitted, would gladly do. Nor is it any vicious circle, this balance, for were American sportsmen to appreciate the situation in all its gravity they would soon find a solution. They would soon learn that to every wild bird ruthlessly killed some farm somewhere must suffer.

Only the stern restrictions of the law seem to curb the savagery of some sportsmen. But others, fortunately, are amenable to reason. A great fault lies in the fact that the reason has not been brought to their attention with sufficient force. Start with the reform leaders in embryo—start with college men. What do they know of the necessity for preserving wild life? Were the facts presented to them, doubtless the next five years would see sincere effort being made by these men to provide for proper legislation and a curbing of individual savagery.

And, as in any other reform, the problem of the preservation of wild life must start with the individual. The type of sportsman who can boast enormous bags is growing scarcer every day. We do not admire him any more than we would nowadays marvel at the prowess of an Indian boasting of the scalps hung from his belt. The game hog is a distinctly distasteful person. He represents the regrettable past. He is, moreover, a living contradiction to the banal platitude that the selfish man ultimately harms only himself. Having no respect for the rights of wild life to their life, it cannot be expected of him to show regard for the farmer's right to the protection wild life affords.

By this we do not mean to imply that there is not a legitimate use of game or that all wild life should be given a coddled existence. The relief from work and worry that a gunning trip affords is undisputed. Nor can any of us deny that a taste of game is a great relief from a steady diet of beef and mutton. But to the doors of such conservative folk cannot be laid the blame, for the slaughter of our wild fowl is necessitated by the demands of those jaded epicureans to whom even good beef and mutton are revolting. Killing for food necessity exists only in the farthest outlying districts, and yet, as Hornaday observes, fully ninety-five per cent of the men and boys who kill American game regard game birds and mammals only as things to be killed and eaten to satisfy hunger—the viewpoint of the caveman and the savage. None of them knows what real hunger is, save by hearsay.

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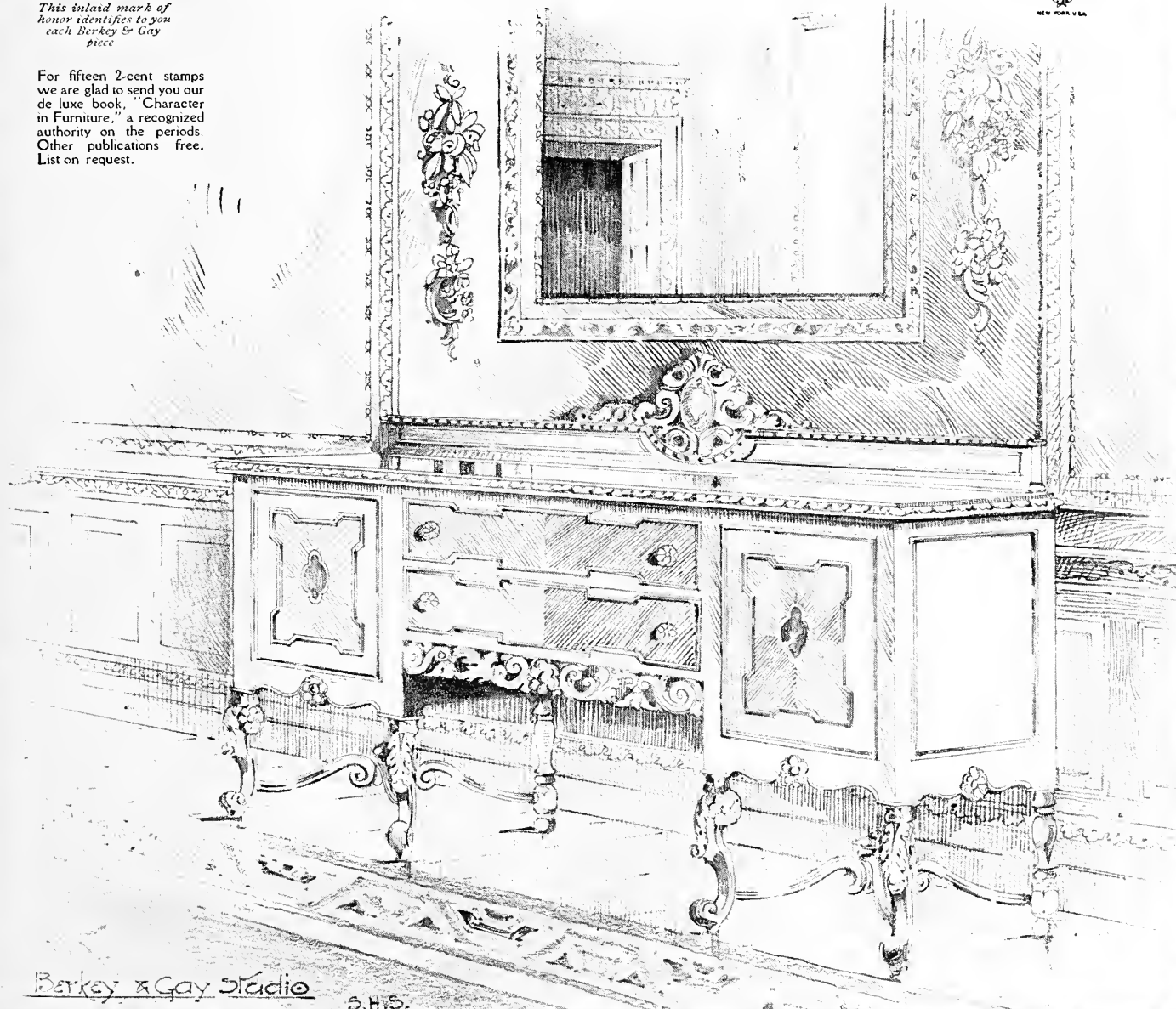
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WHEN a family moves into a new house all freshly decorated, there is a distinct uplift felt by everyone. It is just like beginning over again on a higher level of living. But we can't all move or build new houses every year, though things do grow shabby and family life gets into a rut. But everyone can occasionally put a new room in the old home, and the new room will act like a tonic. It will give a new zest, renewed pleasure in the home. New rooms can readily be put in old houses with



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Keep always on hand at least a can each of Acme Quality Varnotile, a varnish for floors, woodwork and furniture; Acme Quality White Enamel for iron bedsteads, furniture, woodwork and all similar surfaces; Acme Black Iron Enamel for ranges, stovepipes and other metal or wood surface. These will cover many of the "touching-up" jobs. Put up in containers of $\frac{1}{4}$ -pint and up, with friction-top, replaceable covers which are easy to open and close and keep the contents in usable condition.

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Portland

San Francisco
Los Angeles
San Diego

Mrs. John on Orchardling

(Continued from page 159)

some of the undiscerning consider them only makeshifts.

A warm, two-toned brown Scotch wool rug nearly covers the floor. With little outlay we have a room of charm and distinction, and the chief attraction is the big fireplace with its crane, the brick oven at one side, the funny little cupboard over one end and the few bits of Chinese crackle ware on its high, narrow shelf. Occasionally we have a merry fireplace supper with an R. F. D. beefsteak—bless the parcel post!

With the exception of twelve of my forty years I had always lived in the country. I was certain that I knew country life thoroughly; that there could be no problems which I could not cheerfully meet. For years I had been obliged to drive two miles to the inadequate stores of the neighboring hamlet and the station, although the railroad went within sight of my old home.

Critics of our scheme of living—and they were many—shuddered when they heard that we were to be eight miles from a railroad and four from "the store." I felt superior to all criticism, for I was riding on the crest of the wave of John's enthusiasm. If we could have afforded an automobile I doubt if I should have felt so isolated as I eventually did for a time, but I was childish, positively childish, because I couldn't see the cars. The east wind would waft us a whistle occasionally, and the sound gave me an added pang of homesickness. Not until I had driven that eight miles several times did I cease to feel cut off from communication with the world. Those first weeks, although the mail brought many letters, I felt as if I had been buried—as if the world beyond our confining hills was marching on and away from us. A part of all this was caused by the lack of feminine companionship, which I had never before been without. My fingernails were worn off and my fingers became battered because I didn't know how to get help. My laundry work was so badly done by Mrs. Mason that I finally attempted it myself—with disastrous results, more mental than physical.

The spraying season hove in sight, and, although I didn't board the extra men, I had continuous processions of them over my kitchen floor to get water—and such looking men! The lime-sulphur spray made them look like coal diggers; the odor of sulphur was omnipresent, and for a time I was sure of the geographic position of Hades. Even John's watch stopped because of the fumes. And the clothes he wore! Probably I was ultra fastidious, but the ubiquitous dun-colored clothes of country men-folk and the drab calico of the women "got on my nerves." I had chosen my own garments with an eye to

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Pigeon House

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 SETTING COOPS to set a hen in and brood her chicks. \$3.00 each.
 PIGEON HOUSE complete with 10 nests, automatic feeder, water dish and cage. \$25.00.

Neatly painted. Key-bolted together in 15 minutes. Send for illustrated catalogue.
E. F. HODGSON CO. (Room 326, 116 WASHINGTON ST., BOSTON, MASS.) Address all correspondence to Boston
 (CRAFTSMAN BLDG., 6 EAST 39th ST., NEW YORK)

beauty as well as utility. I carefully avoided kimono aprons until a misguided friend sent me three. During the depressing season of spraying I fell from grace in clothes and hair and manicuring.

From my experience I know that a woman of delicate physique should not attempt country life on a farm unless she knows she can get help for her unaccustomed duties. Too, she must be willing to form new ideals of housewifery—not to be overfastidious about inevitable "tracking in." I can't yet practice this preachment, especially on days when, as someone puts it, "I'm running a boarding house for hired men." With our growing prosperity, those days will decrease. Already we are planning to better advantage for my relief and John's, too.

At first I felt that I couldn't wait for things to get in order. Now I know that half the fun is in doing them by degrees, and I have ceased to feel apologetic for things which must wait. After all, it's the looking ahead that counts.

A visit to my old home wrought the cure. I was away from John and the orchard for five endless weeks, and I found a new perspective. I had an orgy in New York—theaters, bridge, shops, Knox hats, taxicabs, automobiles, teas, tournaments—nothing availed to content me. I came home gladly, gayly, and things have smoothed out before my altered mood. It was *life* that I wanted—life on that hill-top with John Anthony!

There are houses made for comfort, and houses made for style; and there is also a house in California made for sunlight that you will enjoy reading about in the April HOUSE AND GARDEN.

Your Saturday Afternoon Garden

Continued from page 177)

they turn yellow without cause the trouble is likely to be in the soil or on account of too much water. When the dripping-off fungus puts in an appearance, plenty of fresh air and flour of sulphur scattered over the surface will help to check its further ravages. A close temperature, a sudden shock or chill of any kind, or having the surface of the soil or the foliage wet, during the night when the temperature is likely to go down, the result of watering too late in the afternoon, are all conditions favorable to the damping-off disease. It attacks the stems of the little seedlings at the surface of the soil, often entirely destroying a large percentage of them.

The green aphid is another pest that may cause serious trouble, as it is almost the color of the leaves, quite small, and hides in the heart of the plant or on the under side of the leaves until it becomes numerous. Left unmolested for only a few days it multiplies so rapidly that it may get beyond control. Any condition that is likely to weaken the growth of the

A Special Message Addressed to You

If you had assembled all the facts pertaining to all the pines, you would select **Arkansas Soft Pine** for all manner of interior woodwork, and get your "**Pick of the Pines.**" Your conclusion would be the same as that reached by the United States Government Officials, if you, as they, were absolutely unbiased and guided by the facts your investigation brought to light

Predicated on the investigations that have been made for you by Uncle Sam, you should employ **Arkansas Soft Pine** for interior and exterior use for these reasons:

For the Interior

No other wood shows such a variety of pleasing figure. Some of it is splashy and bold; some of it has been delicately engraved by nature, the greatest of all artists.

Its uniform texture insures the even absorption of fillers, stains or dyes and a proper finish with shellac, varnish or wax. Properly treated, an effect is secured that is unsurpassed by the finished appearance of any other wood.

For the Exterior

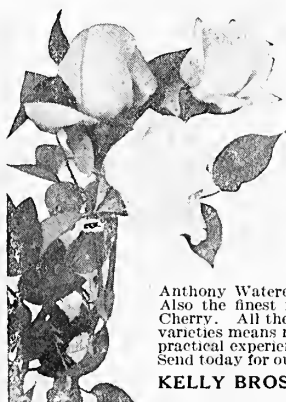
Arkansas Soft Pine contains practically no rosin or resinous oils. There is a notable absence of pitch streaks. It does not gum the carpenter's tools or power machinery. Open cells permit of the absorption of sufficient of the oil and pigment to bind paint firmly to the surface to which it is applied. The result is that Arkansas Soft Pine holds paint. It is easy to work and worth working.

These are elemental **Arkansas Soft Pine** facts with which you should be familiar, because the difference between the cost of this wood and others not so good is so slight that you cannot afford to take a chance.

For Interior Woodwork there is no comparison between the value of Arkansas Soft Pine and other soft woods.

SPECIAL FOR YOU—We have a limited supply of finished samples. We will honor requests in the order received. Send for yours.

Arkansas Soft Pine Bureau
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Roses, Flowering Shrubs and Fruit Trees

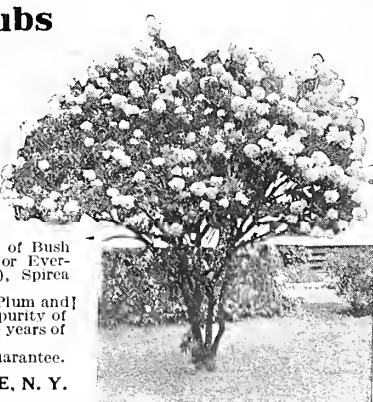
which will bud, bloom and fruit True to Name, sent direct from our Nurseries to your garden at wholesale prices.

This Spring we offer the finest selection of hardy, field grown Hybrid Perpetual and Hybrid Tea or Everblooming Roses. Our list includes the choicest varieties: Maman Cochet (white) Maman Cochet (pink), William R. Smith, American Beauty and Killarney. The stock is all two year old, No. 1 strong bushes. Our book tells you how to plant and care for them.

Our Flowering Shrubs include the finest specimens of Bush Hydrangea, Panicleata Grandiflora and Snowball or Everblooming Hydrangea, Spirea Van Houttei (white), Spirea

Anthony Waterer (dwarf pink). Also the finest fruit trees that can be grown, Apple, Peach, Pear, Plum and Cherry. All the best tested varieties. Kelly Brothers' quality and purity of varieties means much to the planter. You get the benefit of thirty-five years of practical experience. We stand back of every shipment. Send today for our 1915 Spring Catalog. It is free. Read our broad guarantee.

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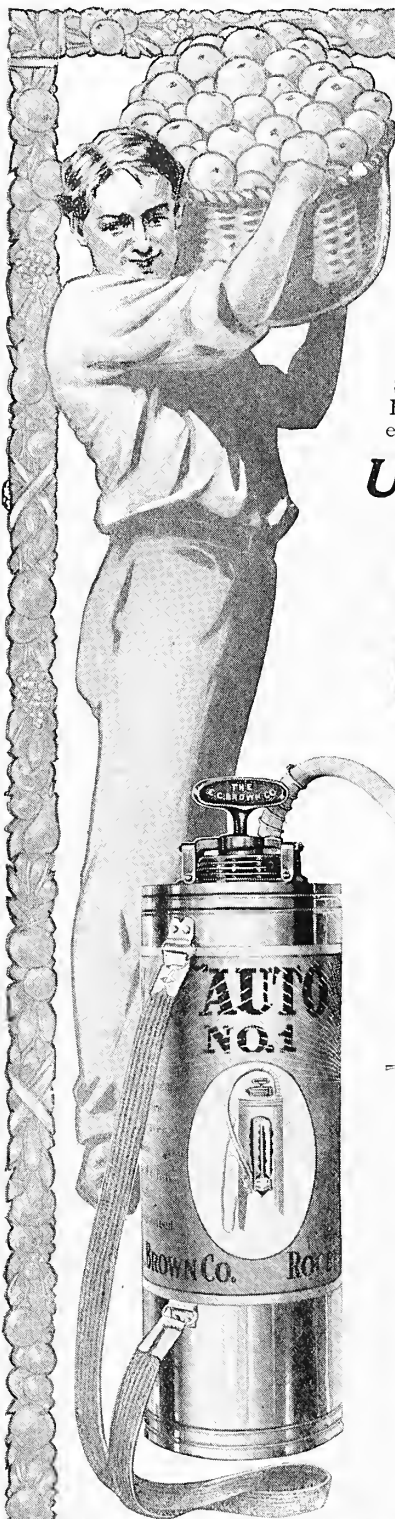
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plants, such as too high a temperature, neglect in watering, too close atmosphere, dark corners, will favor its rapid development. This is one of the sucking insects, and cannot be poisoned. If, from former experience, you have reason to think that you will be troubled with aphids, get a supply of strong tobacco dust made for this purpose, and keep it sprinkled on the ground and on the surface of the seed boxes between the plants, as well as on the foliage. In the event of the plant pest becoming established, strong nicotine spray is the best remedy.

As the days lengthen and the sun climbs higher and the urge to be out-of-doors gets more insistent in one's veins, there are some things which need attention before any planting can be done. First, the garden itself must be thoroughly cleaned. Rubbish of any kind should be picked up; old cabbage or old cornstalks, as soon as the ground loosens up enough to get them out, had better be got out of the way, especially if the garden has to be dug or spaded instead of plowed, as it is difficult to get them in and under. Old bean poles, tomato poles, melon vines, and so forth, all help to make harboring places for insects and disease spores. Everything that you do not need to use again should be burned. Not only the garden itself, but any untidy corners near it where weeds may have grown and died down, making an ideal bug reserve, should also be cleaned up with fire and steel rake. The asparagus bed and the raspberry bed and the raspberry patch, if near the vegetable garden, are frequently prolific sources of trouble, and they should also come in for an overhauling.

The question that bobs up at this time of the year is: "How early can I begin to dig?" There is such a thing as beginning too soon. Nothing is to be gained by it; in fact, you may actually injure the soil by being hasty. Some soils may be dug as soon as the frost gets out of it. Others will remain too wet and sticky for some time afterwards; this depends largely upon how good the drainage is and also upon the character and the physical condition of the soil. A cold, wet spring may delay things for a couple of weeks even after the frost has gone. There is, however, one safe rule to follow: the ground can never be well worked while it is in wet and sticky condition. If it sticks to your spade or falls from it in pasty lumps, you may be sure that you should let it alone for a while. When the soil is turned over, whether you use a spade or a plow, it should leave it clean and dry, the lumps breaking apart readily when hit with the foot or the back of the spade. Some soils seem wet and sticky and of an unfavorable temper when in reality they are not, merely because they have not been properly drained.

There are two or three weeks in the season in which the ground can be got into proper shape in the spring. Ground

Decay-proof and Cyclone-proof

... "always been favorable to your Stains and used them on my own home. The cyclone destroyed the place last March, and in going over the wreckage found that the shingles not blown away are as good as new, although they had been on the house thirteen years last January. In that time they were given two coats of Cabot's, when the house was built, and two coats about six years ago." R. W. Koeh, Omaha, Neb., May 20, 1913.

Cabot's Creosote Stains

thoroughly preserve shingles and all other woodwork, and give soft, velvety colorings that wear as well as the best paint, although the cost is only half as much. They are made of the finest and strongest colors, ground in pure linseed oil, and the liquid is refined Creosote, "the best wood preservative known." No kerosene or benzine, no crude or tawdry colors, no washing off—but be sure to get Cabot's and not a cheapened substitute.

You can get Cabot's Stains all over the country. Send for stained wood samples, and name of nearest agent.

SAMUEL CABOT, Inc., Manfg. Chemists
11 Oliver St., Boston, Mass.



Stained with Cabot's Shingle Stains.
Wilson Eyre, Architect, Philadelphia.

that is backward can be worked up into broad ridges for the planting of a few extra early things, like peas, planting on top of the ridge. While an emergency method of this kind may help temporarily, a thorough system of under-drainage should be put in as soon as possible—early next fall, if you cannot find time to do it now.

Before you begin digging, the manure or compost should be put on. That can be done before the ground is quite ready to dig. But it should be done only just before, and, if possible, the very day that you are going to "break up the soil." If it lies around on the surface after it has begun to decompose it loses much of its effectiveness. The best way, if the garden has to be dug by hand, is to get at it, and get it over as soon as possible. The sooner you can get it all dug, the better, even such parts of it as will not be planted until May. Besides getting the work out of the way, this saves moisture in the ground from the early spring rains, since water evaporates much more rapidly from ground that has not been worked over. Do not, however, make the mistake of spading up or plowing the ground and then leaving it that way, raking off a strip now and then only as it is needed. It should be pulverized and raked and made fine and smooth at once; this to create what is known as the "dust mulch," which is nothing more than the surface of well-prepared top soil, which, drying out very quickly to a depth of half an inch or an inch, holds the moisture in the soil below.

The deeper you can dig your garden, the better, provided you do not have to turn up the hard, lumpy sub-soil. However, a little of this mixed in will not make any difference, and where the garden is shallow from not having been dug before, a little of this raw dirt from the bottom should be turned up every year, in order that the garden may be gradually deepened. The deeper the garden, the more capacity will it have to store up plant food and water for the use of the growing crop.

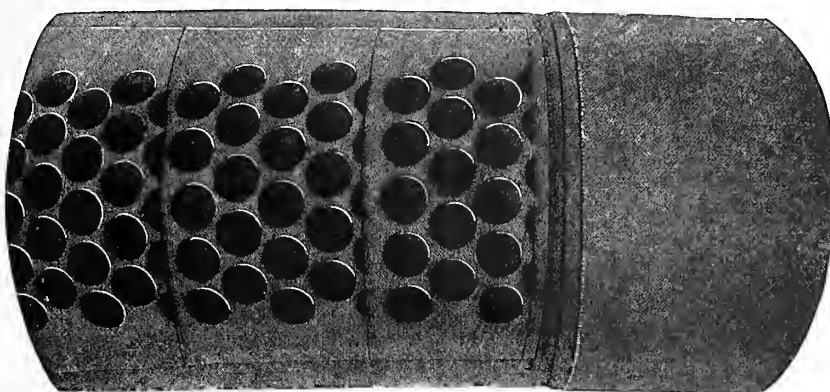
If there is manure to be turned under, the soil in the bottom of each furrow must be well mixed with the soil from the next furrow that is thrown in on top. If it is dug in the usual way so that some of the manure is near the surface, this will be a constant annoyance throughout the season.

Should fertilizer be necessary, spread it on after the ground is plowed or dug, and rake it in. It will be as well in this case, however, to apply the fertilizer to each strip of the ground as you get ready to plant it. Such parts of the garden as cannot be planted soon after they are prepared will have to be raked over thoroughly before planting, in order to break the crust that may have formed and to destroy any small weeds that have sprouted.



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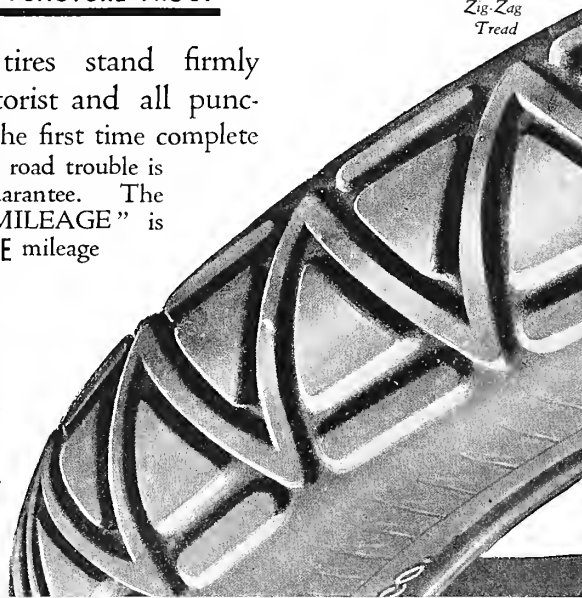
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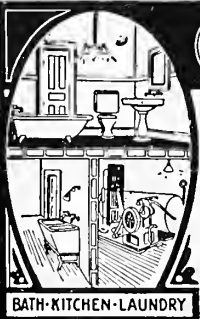
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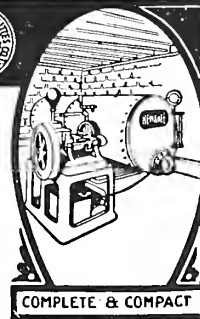
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LEWIS & CONGER

Home Furnishings

45th Street and Sixth Avenue, New York

Landscape Gardening on a Small Place

(Continued from page 172)

rhododendrons and cedars at either end of the house show how effective evergreens can be against red brick walls. Two Rose of Sharon bushes, with double, pink flowers, frame the entrance porch. A new effectiveness has been given to the old, neglected Rose of Sharon by the production of many new hybrids with flowers of clear and single colors. Their upright habit accentuates the quiet formality of the entrance porch. This upright stiffness which makes it so difficult to mould them into a shrubby border invests them, when they are so placed, with a peculiar dignity, producing an architectural balance. It is especially in contrast to these Roses of Sharon that the already-mentioned box bushes under the windows show that they are in wrong positions. They illustrate a frequent mistake in shrub planting, for they have no reason for existence except the willful caprice of the planter, who is wont to consider his material only at its own and separate value, instead of at its subordinate value as part of a well-ordered design.

The planting along the house and lawn enclosure has been given in such detail to show how full of interest a little place can be when careful attention is given to the proper arrangement of shrubs as a boundary around a lawn.

The evergreens give much winter interest to the lawn, the deciduous planting emphasizes the spring bloom. After the roses are through blooming in July, the lawn is framed by quiet greenery, and the color interest is absorbed by the flower garden.

It is a delightful little place not thirty feet square, this flower garden. We like its friendly colors, its intimacy placed close against the house, its little touches of formality and its seclusion, standing high above the street.

Part of its success is due to its enclosure. On the north side is the porch, with masses of rhododendron. On either side of the path is a box bush, and along the steps Lilies-of-the-Valley are crowded close together. On the east side is the picket fence, the curve of which follows the slope up to the house level. On the west side stand a row of arborvitæ trees, now six to eight feet high, and on the south side the branches of the street trees make a heavy, green screen.

In a small garden the design wins approval through sheer simplicity. This design is based on a circular composition inscribed in a square, an old motive kept always new by variety in details. The very center was the place designed for a sundial. It could have been substituted by a slender-columned bird bowl. The spreading *Pinus mugho* there now is at its present height an acceptable central feat-

This Book Will



Help You Build

"Practical Homebuilding" begins with the selection of a lot and the location of the house upon it. It discusses cellar, wall and roof construction, and describes the most approved methods for each. It contains comparative costs of frame, stucco and brick. It is profusely illustrated with photographs of attractive houses, drawings of floor plans, etc.

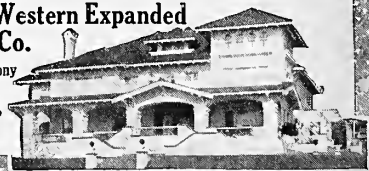
In addition to its general features, "Practical Homebuilding" explains why Kno-Burn Expanded Metal Lath is the logical base for stucco and plaster work.

One interested reader said that it covered the subject "from loam to lace curtains." We want you to have it *now* whether you are going to build this spring or sometime in the dim future.

Send 10c to cover cost of mailing and ask for booklet No. 379.

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Specimen Trees

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The selection comprises Maples, Oaks, Elms, Lindens, Planes and several varieties of Evergreens.

We have just published a leaflet giving full particulars. If you are interested, write us and a copy will be sent you by return mail.

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ure, but soon it will grow too large and dwarf the rest of the design. The manner in which the brick is laid on the path around the *Pinus mugho* emphasizes the circular composition.

To the choice of the flowers is due much of the effectiveness of this garden. The succession of bloom and color harmony creates a pleasurable perennial interest. Their symmetrical arrangement emphasizes the circular composition.

On the edge of the circular path are eight *Sedum spectabilis*, with dwarf nasturtiums planted in between. In back of them are planted the tall, blue *Iris pallida dalmatica*, interspersed with *authemis*, the golden marguerite. The third tier is composed of daffodils and lavender and white phlox. Along the street wall stand, in front of the dark-green of the *Arbor Vita*, light-blue larkspurs raise their slender spikes in spring, and *Aconitum*, the monk-hoods, give a similar effect in autumn. On either side of the gate a bush of low *Deutzia gracilis* blossoms early in the spring, and later in June two plants of yellow day lilies placed on either side of the path to the house make bright spots of color. To complete the formal effect, a white, flowering Rose of Sharon is planted at each corner.

From the time the narcissus come out in April until the phlox fades in September there is always something blooming in the garden. The middle of August, when the picture was taken, is the gala time. It is the climax of the flowering season. The Rose of Sharon, the *sedum* and the phlox are all blooming together in a harmony of lavender and white with a bright touch or two of yellow *authemis*.

It is not necessary, however, as it is not possible, to have so much bloom all the time to make the small garden effective. When I saw it in early July, with the *Hemerocallis* just beginning to bloom and the larkspurs in flower, the garden was quite charming, with its delicate touch of blue and gold.

When it gets too cold to sit out, the garden lies unadorned with bloom, but it has lost little of its attractiveness. The rhododendron foliage, the fragrant box bushes, the *Pinus mugho*, the pyramidal *Arbor Vita*, contrasting with the warm, red brick of the paths, provide much winter interest.

The enclosure, the architectural details, the design, the flowers, each has an important part to play. Not in their individual parts, but in their inter-related action toward effectiveness and beauty lies their value in the art of garden making.

There's a right way to grow seed and a wrong way; the right way you'll learn about in Leonard Bastin's article in the Spring Planting Number of HOUSE AND GARDEN.



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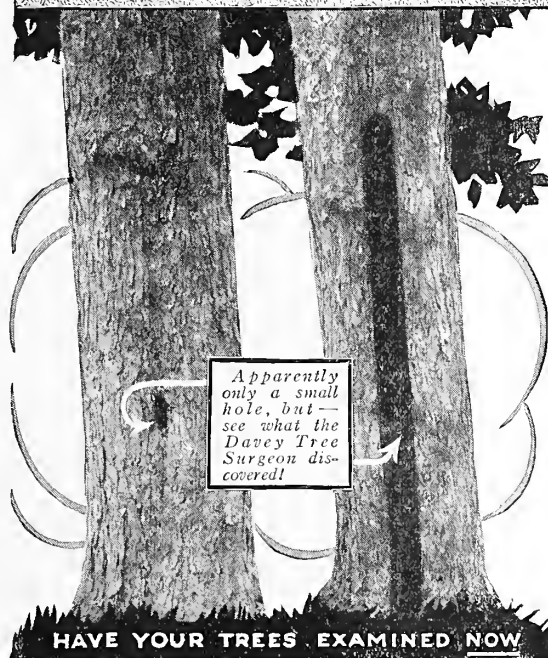
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The Old Ballard Place

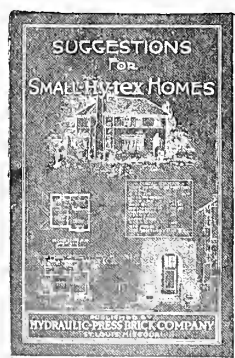
(Continued from page 164)

near a hedge. Cats can, and will, creep under the shrubs, and, hidden there, will lie in wait and do much harm, as feathers near the hedge have often testified.

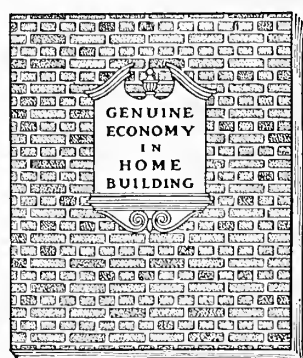
Peeping out from this hedge here and there were dainty little Columbines, with their graceful bells in different colors. Forget-me-nots were blue with their blossoms through the summer, and in the fall the asters along the front of the hedge were glorious. Directly in front of the house, at the north of the brick wall, were masses of bridal-wreath bushes, and a great, golden forsythia made sunny the northeast corner of the yard. Tartarian honeysuckles formed the north line to the house. All along its north foundation wall and hugging up close to it were lilies-of-the-valley and ferns.

Over the front of the house itself grew wonderful clematis vines that were full of little white blossoms in the fall, making the air sweet with their fragrance. One of these vines grew onto and over the lilac tree at the corner of the house. This was the old front yard.

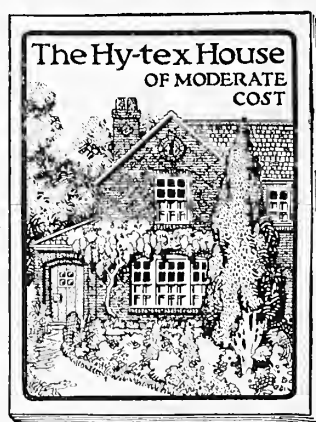
Between it and the back yard there used to be a high board fence. I was glad to miss it. The old back yard was given over to the clothes-drier, with its great, long arms, its platform and steps; to board walks and ash heaps; to the well and pump; to barn and chicken yard; to corn-field and vegetable garden. The day of the great clothes reel is past, but the memory of the joy that came as we hung to the arm of this reel while we were rapidly swung around will be ever with us. Were you ever a little girl who was compelled to play in the back yard, never stepping foot in the front yard in your play? If you were, you will understand me when I say that my first glance at this back yard when I saw it last summer made me long to be again a little girl, compelled to play only there, where there seemed to be everything to make interesting a little girl's play. A splendid apple tree grew here, and a mulberry tree full of fruit attractive to the birds. A hedge of lilac and sumac hid the back fence completely. A woodbine and wild grape vine covered the south side and front of the barn, and the space once claimed by the ash heap and board walk had been transformed into a most inviting spot. Cherry, syringa and sumac trees made an effective corner, in front of which was a long, curved bed full of hollyhocks, foxglove, gladioli, snapdragons, pyrethrums, zinnias and a border of love-in-the-mist. The wide beds in front of the back and south hedges were a mass of color all through the season. First came the oriental poppies in many shades, then the iris and peonies. Later came the crowning beauty of the year—the Canterbury bells and the foxgloves. After these had gone, hollyhocks, platycodons, snapdragons



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and gladioli showed their colors. There were beds, too, filled with anchusa in its pretty shades of blue; hardy larkspurs, monkshood and Sweet William, and when the fall came this garden was brilliant with asters, cactus, dahlias, chrysanthemums and zinnias.

Where the cornfield and chicken yard had been I found a beautiful lawn, at the north line of which was an occasional bush or tree and another birds' bath out in the sunshine away from bushes and danger. On a little trellis over the woodshed door grew the matrimony vine, and the south fence—a little wire fence—was covered with the vines of woodbine and bitter-sweet. Loving hands and much thought had been given to the task of making this garden spot a pleasing one. Joy had come to those who did the work and to those who came to enjoy it.

No one but the German gardener looked on with a thought of criticism. He, with a wry face and a shrug of his shoulders, would say: "Oh, ya, it is good—but nod-ding's to eat in dis garten! Should be, anyway, strawberries or somedings," and a kindly Scotch neighbor was, perhaps, of the same opinion, when he came modestly asking: "Might I be allowed to set out a few lettuce heads in the corner by the barn?"

I left Oldham and this garden late in the fall full of regret, but at the same time convinced that nothing in the way of transformation is impossible to the one who really loves and studies a garden.

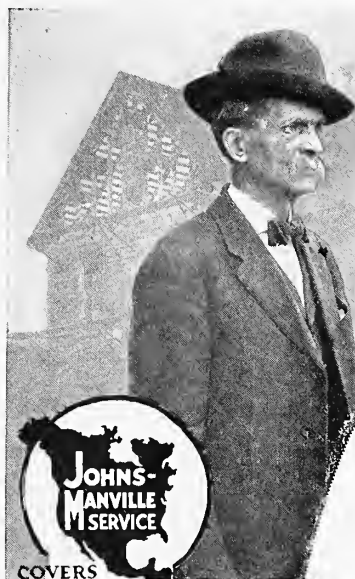


Dining-Rooms of Distinction

(Continued from page 156)

unusual room may be had by using Colonial landscape paper of classic or Chinese design. This necessitates long, unbroken wall spaces. Needless to say, pictures have no place here. Sheraton dining-room chairs of shield-shape back give a refined appearance and silhouette beautifully against the wall. In such a room a corner cupboard for old china looks well, or better still, a pair of such cupboards. The door of the cupboard can be made attractive by removing the top panels and filling the frame with small panes of glass, thus giving above a glimpse of the best china, whilst the lower part may be used for the less attractive.

In many dining-rooms in the country that have a northern exposure an excellent plan is to use a Colonial yellow paper with white wainscoting and trim, small-paned windows, a cheery, old-fashioned chintz on the windows and begonias—for begonias grow beautifully in a north room. Thus a dismal, north room can be converted into a cheery place. A piece or two of well-polished brass helps out the effect in such a room. For the table, an



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effective centerpiece is a white china lattice basket filled with flowers or fruits.

In a Colonial room which is rather delicate care should be taken that the bricks of the fireplace are inconspicuous. In many cases the effect of a fine white mantel is utterly ruined by the wide bonding of the bricks below it, bonding so out of proportion that it quite spoils the room.

Gate-legged dining-tables are usually more picturesque than comfortable, and are better used in the library or living-room than in the dining-room. There are many lovely types of Colonial dining-tables with delicately turned legs, and to go with them Sheraton Colonial chairs with rush bottoms. In general, it is wise not to use velvet for chair seats; modern hair cloth made in very attractive colors and patterns or leather-covered or rush seats are more comfortable and servicable.

Nearly related to our Colonial room is the English Georgian, with its simple, white paneled walls and mahogany or inlaid furniture of Chippendale design. A serving-table of black Chinese lacquer fits in well in such a room. If the walls are gray, use taffeta curtains of rose, with a narrow, black stripe, and on the floor lay an Oriental rug. Thus you have gray, rose and a touch of black repeated, making a distinctive room.

An English Jacobean paneled dining-room is always elegant, but is more suggestive of dinner than breakfast. Fortunately, those who can afford such a room can afford also a breakfast-room, which provides the necessary sunshine and restfulness for the day's beginning. The furniture for such a Jacobean room must of necessity be rather heavy in scale and the hangings rich in color and texture. There is much to be lived up to in a paneled room. Above the paneling the frieze may be treated in several ways: plaster mixed with a tint to tone in with the woodwork, a decorated frieze of medieval design or a plain paper. It is better not to use a color different from the paneling, as it breaks the wall surface and detracts from the paneling itself, which, if of good proportion, has much decorative value. Above all, avoid making the top trim of the paneling serve as a shelf to display steins and plates. In such a room one or two pieces of antique furniture will give an air of distinction, especially one of those court cupboards which were a unique product of Jacobean days. Casement windows would lend an air of similitude to the feeling this early English period connotes.

If one wants to have an English dining-room, a simpler and less expensive treatment is to finish the walls in rough, tinted plaster or tan paper of a heavy texture. Have the floor, doors and trim of oak and use English cottage furniture. Casement cloth or a linen of Jacobean design at the window would make this a beautiful room and not an expensive one.

The rough plaster walls of an Italian dining-room are best fitted for a country house. Here windows, devoid of trim,



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should open onto a terrace, and there should be arched niches in the wall for rare, old Italian pottery or copper. In such a room a simply carved stone fireplace and Italian walnut furniture would give an unusual effect. Linen hangings, luscious with fruit of warm colors tone in with the soft buff of the walls. It is curious that these Italian rooms—so simple, reposeful and full of quaint, decorative charm—are not more often adapted to our American uses.

Especially would I make a plea for the long, narrow tables that are used with so much success in Italian villas. If the guests are few and favored, by placing them opposite one another they have an intimacy they cannot have across a large, circular table; and if the guests are numerous, the table may accommodate them all. Also it affords an excellent opportunity for decoration: at either end a huge bowl of flowers, a pair of those charming brass candelabra, or even the informality of a pair of early wrought iron candlesticks whose beautiful lines, one imagines some Fifteenth Century craftsman fashioned with the same loving care that he expended on a silver chalice. About the whole room is a feeling of ascetic severity.

Contrasted to this is our very modern room of enameled and decorated furniture and the omnipresent touch of black: rooms, black carpeted, gray walled with gray and black furniture; rooms of clear pure green, with a touch of strong, deep, old rose; rooms with blue walls and gray carpet and blue and gray furniture. Such rooms are clever and really charming, but they have too obvious a note, one gets merely the strong sense of color combination. They are unusual, but not always distinctive.

Such effects should be confined to the breakfast-room. There one needs toning up, and any fantasy is welcomed. You feel the spirit of play, of fun in their planning and making, and to-day the shops are tempting beyond resistance in these very modern combinations of furniture and fabrics.

A most important consideration in a breakfast-room is the outlook. There must be a good view of the weather, so to speak. In summer the breakfast-room may be little more than a porch.

In many old farm houses one finds a downstairs bedroom. In remodeling, why not convert this into a breakfast-room? Its possibilities for decoration will be a source of much delight. Gay clintz paper, sundour hangings, white enameled furniture decorated with old-fashioned bouquets, and there you have a convenient, cheerful and charming breakfast-room, an altogether desirable adjunct to your dining-room of distinction.



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Getting Results with Gladioli

(Continued from page 157)

den that can be utilized in this way. It is better to plant gladioli in beds or groups, rather than in rows, as the plants help to sustain each other.

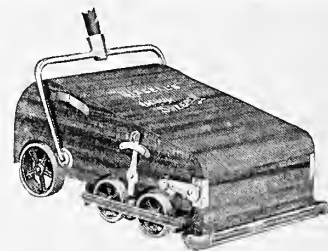
In heavy soils the corms may be covered two inches deep and four to six inches in light soils. For massed effects, plant four to five inches apart and twice that distance if one wishes to fill in nooks or portions of the border. When the gardener plans for successive planting the earlier lot should be put in a foot apart, to admit of later settings between. A six-inch distance, however, is generally applicable.

As they grow, stake the plants, for the stalks are fragile. In conspicuous positions stakes are desirable. Those who care for garden novelties will find in the shops a variety of pretty stakes with butterfly and bird heads that add a touch of color and picturesqueness quite pleasing to those who have been accustomed to the more homely but none-the-less serviceable, old-fashioned garden stake. If these are not desirable, stakes can be driven in at regular intervals around the beds and a cord tied on them, which will help support the stalks. Some gardeners nail laths to the top of the stakes and wind on them a mesh of light string that will steady the fragile spikes against the wind.

The time to cut gladioli spikes is when the lowest blossoms open. Keep them in fresh water and cut the stems daily, and the buds will open one by one. With this precaution they will last over a week. Cutting the spikes will help increase the size of the bulbs—an advantage that will be appreciated next season. If the stems are allowed to dry without cutting after the flower spikes are removed strength is thrown back into the bulb—an added advantage for the next season. It is a wise plan to cut gladioli so soon as the flowers appear, for the flowers fade quickly if left on the plant—some varieties particularly. This is notably true of America—the delicate, flesh-pink variety—which will be wilted at the end of one warm day.

Like cannas, elephants' ears, tuberous begonias and dahlias, gladioli must be lifted in the autumn. Late in the fall, after frosts and before freezing, the corms should be dug up, cleaned and dried in the sun for several hours. The top should be left on, or, if space is needed, kept on until completely shriveled, when the corms can be stored away in boxes about two and a half inches deep. Keep your varieties separate as much as possible. Place in a cellar where they can be undisturbed throughout the winter.

Should the gardener wish to force blooms in November and December, the process is simply done by keeping some of the corms in a cool place, thereby retarding their growth until August. Plant them in boxes of rich soil four to eight inches deep, and keep them outdoors until frost.



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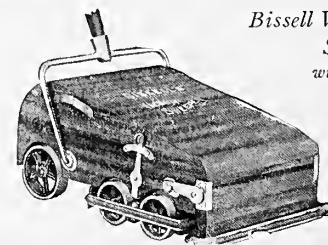
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Hatching With a Wooden Hen

(Continued from page 175)

convenient tester will be needed. A good kind consists of a device similar to a metal lamp chimney, with a light tube at one side. It may be used on an ordinary lamp, and leaves both hands free. A plan used by some poultrymen who have incubator cellars allows the eggs to be tested in daylight and without the use of a lamp. A board shutter having an opening in the center a trifle smaller than an egg is fitted into the window so tightly that all light is excluded except that which comes through the opening, and against which the eggs are held to be examined. If there be a strong light outside, as when the sun is shining brightly, the testing may be done very easily and quickly.

While making the test for fertility it is also advisable to examine the air cell at the end of the egg in order to learn whether evaporation is normal or too rapid. One of the illustrations indicates the proper size of the air chamber at the end of a week and two weeks. When the contents of the egg seems to be drying faster than it should the air chamber will be larger and the operator will know that more moisture is needed. The moisture question is one which has been the cause of much discussion, but too much moisture seems, on the whole, to be better than too little. In many machines it is provided by means of wet sand trays. With other machines pails of water may be placed under the lamp, the floors wet down or the eggs sprinkled with water at a temperature of 103. Sprinkling is often advantageous when duck eggs are hatching.

With the chicks finally out of the incubator, it is easy to understand that the machine will need a thorough cleaning and disinfecting before it is used again. The lamp burner should be boiled and a new wick inserted, after which the machine may be started on a new hatch.

From all that has been written one might suppose that the operation of a hatching machine is a complicated matter, but in point of fact it is not. Certain things are to be done in the right way and at the right time, but a first-class machine will require little attention except night and morning. Follow the maker's directions carefully, for he has doubtless spent many hours trying to anticipate every possible contingency. He wants to make it as easy as possible for his customers to get satisfactory hatches. As to the rest, the amateur who has the highest degree of success is the one who looks carefully after every detail, but otherwise leaves the machine alone. Tinkering, especially with the thermostat regulator, is foolish. After the first adjustment, the temperature may usually be regulated by increasing or lowering the lamp flame. And, finally, it must be remembered that nobody can hatch good chickens in any sort of incubator unless the eggs were laid by hens possessing strong vitality.

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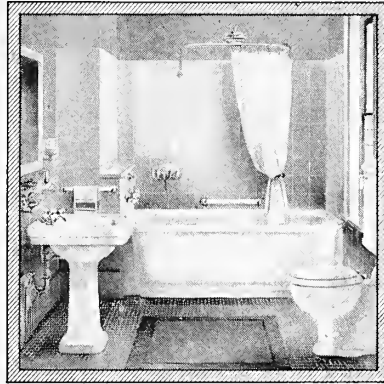
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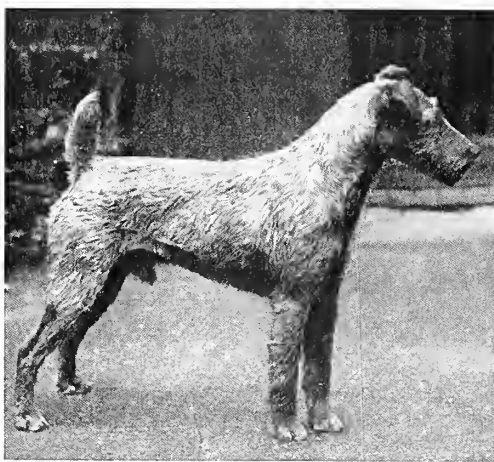
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Seeds**

Real Irish

(Continued from page 167)

The lithe conformation, which is so typical of the Irish terrier, must never, however, be carried to an extreme of shelliness and weakness. A lean, lank, slab-sided dog is no true daredevil. His coat, of course, must be like pin wire, with a wooly underjacket. In color it must be red—the redder the better. The washed-out tint of wheaten straw and the smutty red with a dark streak down the spine are equally objectionable. Judges set great store by coat and color, and rightly so, for these are important parts of the dog's attractive individuality. When he runs,



From nose to stern he is made of tingling nerves and springy muscles

the typical Irishman has the free, open swing of a galloping thoroughbred. He is always up on his toes, and from nose to stern he seems to be made of tingling nerves and springy muscles. No dog is more everlastingly on the alert.

In the city, in the suburbs, on the farm, the Irish terrier is a mighty good dog. He has size enough and sand enough to be useful both as a destroyer of varmints and as a guardian. At the same time he is small enough and nimble enough to be convenient in the crowded street or the four-roomed apartment. He is always good company, quick of wit, sympathetic, and lively without being boisterous. He is intelligent, as well as clever, and he is easily taught those lessons in etiquette and obedience so necessary for his own peace and his master's pleasure.

If a friend, with his heart set on owning an Irish terrier—there are many worse ambitions—should ask my advice, I would suggest he go to a reputable kennel prepared to pay what he could afford, for a good dog is worth a good price, and one does not like to have to apologize for his four-footed companion. I would advise his getting a youngster about six months old. At this age he will be over the troubles of his puppyhood, and yet young enough to be brought up in the family,



It Makes No Noise!

Why Be Embarrassed?

Why submit to the mental discomfort caused by the sound of flushing the ordinary noisy closet?

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Silent Closet

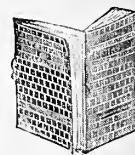
operates so quietly, when properly installed, that it can't be heard outside its environment. It was designed to be *silent*, yet no sanitary detail has been neglected.

Even if its highly glazed surface should be accidentally chipped off, it would still be white, and impervious to grease and acids.

Architects and plumbers recommend the Siwel-clo and all our other sanitary products

Booklet R-8,
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Character"

shows plans and designs.
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My free book tells how to win Bluebirds, Wrens, Purple Martins, Tree Swallows, etc. to live in your garden. I have worked 19 years for our native birds; have hundreds in my garden; and have helped thousands of others to win birds. If you want birds this summer, write me. I build bird houses, shelters, baths, etc. Among them—Dodson Purple Martin House—26 rooms and attic. Price, \$12—with all-copper roof, \$15. Dodson Bluebird House—Solid oak, cypress roof, \$5. Chickadee or Nuthatch Houses, \$1.50 to \$3.50. Flicker Houses, \$2.50 to \$5. Tree-Swallow House, \$3. Bird Feeding Shelters, \$1.50 to \$10. Bird Baths—Zinc, \$6; Cement, \$17.

The famous Dodson Sparrow Trap catches, automatically, as many as 75 sparrows a day. Price, \$5. Get rid of sparrows and so help the song birds. All prices are f.o.b. Chicago. Write for my free illustrated book—today.

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Chicago

Mr. Dodson is a Director of the Illinois Audubon Society

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which is something to be greatly desired in the case of a house dog. I would suggest he pick out a bright, husky pup, with good, straight legs, a shortish back, small ears, dark eyes, and a red, wiry coat. Six months later his dog may have developed into a "world beater," fit to win at any bench show in the land, or he may, as the fancier says, have "gone wrong." In either event, I will wager that whether he cost twenty-five dollars or two hundred and fifty, my friend will not take a hundred per cent profit on his bargain.

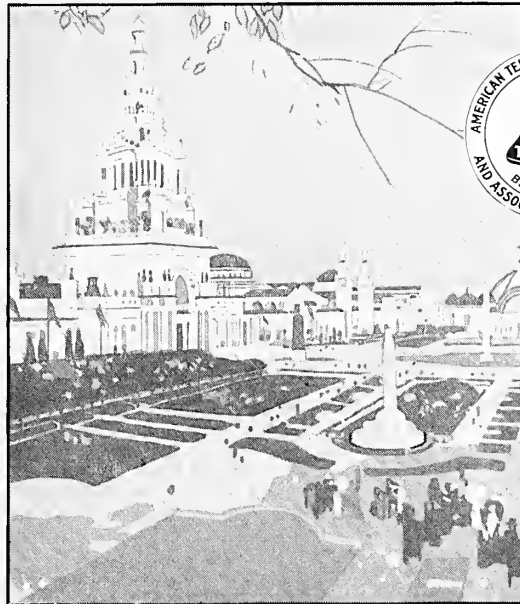
Forty years ago no one dreamed of spraying. That was because Nature took care of us—her birds and mammals thrived on the pests that would otherwise have spelled ruin to crops. Since then men have thrived on the wild birds and mammals. Hence spraying is a necessity—a necessary evil, perhaps, yet a part of garden work that is vital. Read "Repelling the Pest Invasion," in the April HOUSE AND GARDEN.

My Suburban Garden

(Continued from page 153)

with trunks about 1¼ inches in diameter. They cost 35 to 50 cents each; surely a diminutive outlay for all that future wealth and pleasure! Orchardmen always buy one-year trees, which are mere "whips," costing about 20 cents apiece. They do this partly because of the reduced cost (which runs into money on 10,000 trees) and partly because they can head the little whips of trees themselves, and every orchardman has his own notions as to the proper height to head. For a suburban garden, the two-year tree is best, for it already has been headed at the nursery better than you could do it yourself. Three-year trees are sold by some nurseries, but buying them is a great gamble. Some of my three-year Baldwins are fourteen feet high, and must have by this time roots at least eight feet long, but if you were to dig up such a tree at the nursery your top and roots would be far out of balance, for most of the big roots will have been shorn off by the spade, and it would take years to get on its feet again, if, indeed, it lives at all. Our two-year trees came to us with a ball of roots about two feet long, and simply needed cutting the tops back about one-half. They should go in the soil to above the graft joint, for all these nursery trees are shoots of Baldwin, Winesap, etc., grafted onto stock apple roots, and this root will send up out-law shoots of its own unless the soil comes up well above the graft scar.

In this first planting I did not dare put them in very deep because of that wet soil, and I think, on the whole, for amateur gardeners, the mound system of planting is best, anyhow—set the roots a little below garden level and mound up to cover the graft joint. All my later plant-



Creating a New Art

At the Centennial Exhibition at Philadelphia, the exhibit of the Bell System consisted of two telephones capable of talking from one part of the room to another.

Faint as the transmission of speech then was, it became at once the marvel of all the world, causing scientists, as well as laymen, to exclaim with wonder.

Starting with only these feeble instruments, the Bell Company, by persistent study, incessant experimentation and the expenditure of immense sums of money, has created a new art, inventing, developing and perfecting; making improvements great and small in telephones, transmitter, lines, cables, switchboards and every other piece of apparatus and plant required for the transmission of speech.

As the culmination of all this, the Bell exhibit at the Panama-Pacific Exposition marks the completion of a Trans-continental Telephone line three thousand four hundred miles long, joining the Atlantic and the Pacific and carrying the human voice instantly and distinctly between New York and San Francisco.

This telephone line is part of the Bell System of twenty-one million miles of wire connecting nine million telephone stations located everywhere throughout the United States.

Composing this System, are the American Telephone and Telegraph Company and Associated Companies, and connecting companies, giving to one hundred million people Universal Service unparalleled among the nations of the earth.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY AND ASSOCIATED COMPANIES

One Policy

One System

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Make Your House Beautiful

By Using On Both Roof and Side Walls

"CREO-DIPT" STAINED SHINGLES

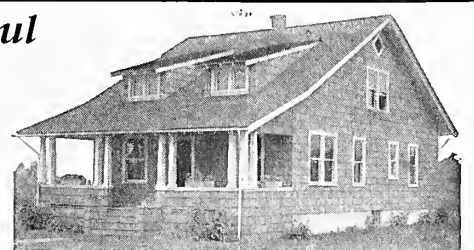
17 Grades—16, 18, 24 Inch. 30 Different Colors.

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They save painting and roofing bills and produce artistic effects that are permanent. We select best cedar shingles and by our special process preserve them in creosote and stain them any color desired. They last twice as long as brush-coated shingles or natural wood. They cost less than staining on the job. We are responsible for both the quality of shingles and lasting colors. Save time, muss and expense of staining on the job.

Write to-day for colors on wood and book of "CREO-DIPT" houses in all parts of the country. Names of architect and lumber dealer desired.

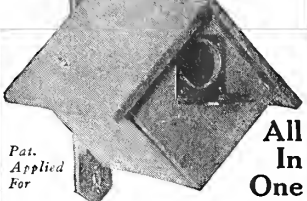
STANDARD STAINED SHINGLE CO., 1012 Oliver St., N. Tonawanda, N. Y. (Shipments prompt. Branch Factory in Chicago for Western Trade.)



Bungalow for Mrs. Marion Wickman, Springfield, Mass. Architect and Builder, H. G. Wickman, Babylon, L. I. "CREO-DIPT" Shingles on roof and side walls. Side walls are extra long shingles laid with a 10½" exposure. The effect is decidedly artistic and the result is most economical. No restaining, no painting, no repairs during the life of shingles. They last twice as long as ordinary shingles.

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\$1 Including 3-Hole Entrance



The "Ridgewood" Bird House

Very artistic, attracts Blue Birds, Chickadees, Wrens, Woodpeckers, etc. Can be hung anywhere. Has metal squirrel-proof opening. Is self-cleaning. Stained brown and green. Order direct.



"Three-Hole" Entrance

Keeps birds with you all the year 'round. Leave up large hole for Woodpeckers, Great Crested Fly-Catchers, etc.; medium size for Blue Birds, Nuthatches, Chickadees; small size for Wrens.

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They Will Repay You!

Enlist for the protection of our native song and insect-eating birds. A few bird houses erected on your place will invite the birds to stop on your premises. Proper food will keep them there all the year 'round to protect your trees, shrubs and garden.

The birds are our best friends, as they kill our enemies—the insects who destroy plant life. Besides they please us with song and beautifully influence the children for good.

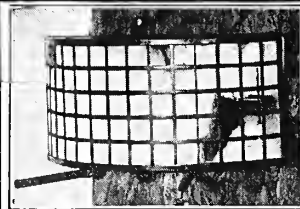
Birds need shelter and food right now. Order several of the beautiful bird houses shown here and a few suet baskets.

All shipment charges prepaid. Money back if not satisfied. Address

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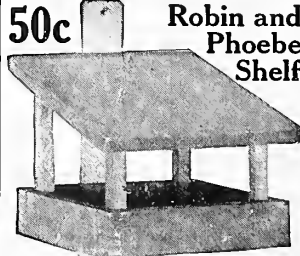
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Carrie Gooseberry. Succeeds everywhere.

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The linings are snowy white opal glass, porcelain or white enamel, as you prefer, and are easily kept clean and sanitary.

For over thirty years McCray Refrigerators have been recognized as standard, representing the finest type both in construction and efficiency. They are used in the U. S. Pure Food Laboratories, because tests proved them to best meet the exacting requirements, and in the finest residences, hotels, clubs, restaurants, public institutions, etc.

McCray Refrigerators are built in a great variety of sizes, for every requirement of residence, hotels, clubs, restaurants, delicatessen stores, groceries, meat markets, florists, hospitals, public institutions, etc.

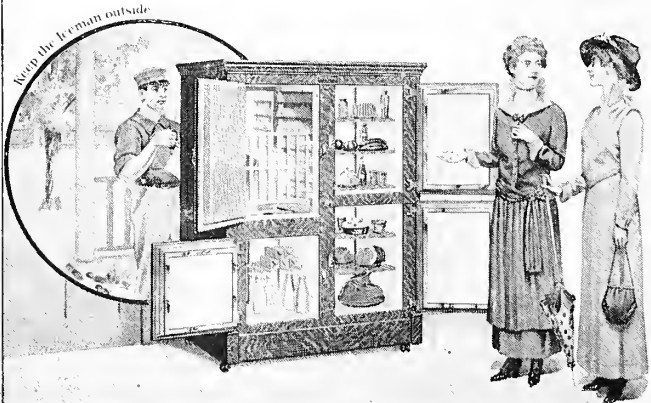
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ings have been done that way, and all have succeeded splendidly. For filling the 4-foot border around the garden in between the fruit trees I ordered a quantity of small fruits at about 8 cents a root.

The raspberries and grapes, and later currants and blackberries, were planted in a 4-foot bed along the back fence, with an overflow along the west border of the garden.

My original vegetable layout is open to a good deal of criticism. It has the usual beginners' defect—"too much of everything and not enough of anything." If there was a single kind of standard vegetable that I overlooked in that layout, the oversight was entirely unintentional.

I also overlooked the important fact that all the plants of any one vegetable do not come ripe simultaneously. In fact, only about one-third of the plants of any planting will be ready for picking at any time, and this must be allowed for in figuring quantities. My first plan contemplated 100 strawberry plants, 1 x 1½ feet spacing, along the east border of the garden; a row of eight bush muskmelon hills; three 25-foot rows of potatoes; five 25-foot rows of asparagus; one 25-foot row of



Planting a young nursery peach. Mound system is best. Dig a shallow hole, set in roots, tramp rich soil about them, next a shovelful of manure, and top off with ordinary field soil piled up above the graft joint as shown.

rhubarb, spaced 3 feet; one of eggplant, spaced 2 feet; one of lettuce, three of peas, two of radish, two of beets, one of spinach, onions, carrots, parsley, a tomato garden of 15 plants, 100 feet of string beans, forming a garden border, and 60 feet of corn along the back fence, in front of the raspberries. With extremely rich, mellow soil this arrangement might have given fair results by making the east garden all permanent plants; i. e., rhubarb, asparagus and strawberries, all requiring rich soil and coming up year after year undisturbed.

You will note that it is a wheel-hoe garden, all the vegetables in long rows running north and south, no small beds and no paths except the main central and traverse paths, wide enough for a wheelbarrow or garden wagon. All my boyhood gardens were a series of small beds and had to be hand-weeded and hand-hoed. Since then the wheel-hoe has come into prominence. I got one, right off, for one can accomplish five times as much in one-fifth the time as with the old spade, hoe and rake methods. The wheel-hoe has a small plow, which turns over your soil as fast as you can push it, three cultivator hooks to break up the plow clods, two harrow rakes and two hoes, the latter for weeding. I could appreciate all those soil-preparation tools, and used them at once, but the efficiency of the hoe attachment as a weeding tool I did not realize until next year, for my rows were down too close together at first to use the hoe properly.

Planting went on merrily by simply throwing two furrows against each other with the plow and planting on the ridge (you see, I was still much afraid of that wet soil), and by the middle of May the tender vegetables were in; beans, corn, tomatoes, eggplants, and the summer came on apace.

But I had reckoned without my soil. The fruit trees and berries put forth their leaves bravely, the vegetables came up on time, and those early May days were a delight. But by June a subtle change came over the whole garden. The soil was still as black and wet as ever, in spite of three weeks of sun; the young, tender seedlings of lettuce, radishes, beets and spinach seemed to languish and stop growing. A distinct appearance of withering overtook the fruit-tree leaves; they were curling up and turning yellow, the raspberry leaves were shriveling before my eyes. An alarming blight seemed to spread over everything. At first I thought it was lack of sufficient sunlight, so I took out, furiously, the remaining forest trees over the garden. It then got direct sunlight from 10 A. M. to 4 P. M., in spite of the wall of forest trees on the east and west. Still the desolation went on; all the trees dropped their first crop of leaves and the strawberry and asparagus plants turned yellow and died. Young radishes, spinach and beets simply withered away and died after the first two leaves; the string beans (which will grow anywhere) contented themselves with two sickly yellow leaves; peas rose to about six inches high, stopped, and turned yellow.

Ah, that terrible June! I, that was one of the most successful boy gardeners of my time, saw my work as a grown man coming to nought before my eyes. It could not be the drainage entirely, for under the long, sunny, dry spell my soil was simply fresh and moist—not soggy. Could it be the soil itself—that rich, black loam that looked to be so ideal for plant

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Radium Brand Fertilizer is a complete and highly efficient plant food, put up in convenient and attractive packages and priced to meet a demand from you who love to grow things, in your home, garden, lawn or green-house.

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Chrysanthemum plants, grown from same cutting in same soil, in Phipps' Conservatory, Pittsburgh, Pa., the one at left with Radium Brand Fertilizer (R. A. F.), at right with ordinary commercial fertilizer. The comparison of the flowers in their natural state is far more striking even than shown by the camera. What Radium Brand Fertilizer (R. A. F.) has done for the Chrysanthemum it will do for your flowers, vegetables, etc.

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See full-page advertisement on fourth cover of this issue.

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Woven by hand from the celebrated East India reeds. Practically indestructible. All sizes and colors. SPECIAL OFFER—Size to cover Standard 4 inch pot, style 7, or 5 inch pot, style 1, 35c, each; 3 for \$1.00 postpaid. Send for our booklet, "For the Home," containing 24 pages of practical artistic suggestions in Wicker Ware. "BOMBAYREED" MFG. CO., Sole Makers, ATLANTA, GA.

In answering mention HOUSE & GARDEN



No. 1



No. 7

The Helpful Book for Garden lovers

The Meehan handbook is different! Its advantage to the garden lover is not alone in the fact that it has over 100 pages, profusely illustrated.

It is complete, compact and handy. Easy to find any hardy tree, plant or shrub of merit in this book.

Many new, rare and unusual plants are described and illustrated.

Collections for various purposes are so arranged that proper choice is easy. Any property of one acre or less can be planted complete from the street front to the small fruit-patch in the rear by combining these collections. It simplifies ordering.

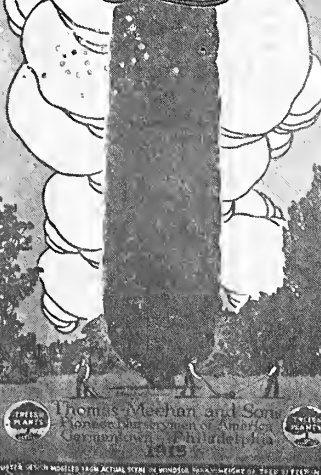
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Have you tried Meehan's Mallow Marvels in your garden? If not, you will be interested in this—the most popular hardy flower in cultivation. Three colors, one each, for \$1.75.

Write today for this practical handbook. It is FREE. If you have a new unplanted property, indicate the size and conditions, and we shall have one of our practical plantmen familiar with the soil conditions in your locality forward his recommendations.

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Pioneer Nurserymen of America
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Hand-Book of Trees and Hardy Plants



growth? One after another, five of the fruit trees died—one Baldwin, both Fall Pippins, both cherries; they put up a noble fight for life, sending out two sets of leaves with what sap they possessed, but, when I sadly dug them up—phew! the sour stench that arose from that black, muddy mess of rotten roots! The same occurred with the raspberries—magnificent two-year Cuthbert roots—now sour and black, not even attempting to grow a fibre of new roots, killed with "wet feet" in sour soil! But the overflow berries and grapes, planted any old place about the house, were thriving mightily; so was all the privet and shrubbery in the dry soil at the front of the place. I took hope and consulted a soil expert, for I knew it was not a sunlight problem, but soil and drainage, that I had to deal with.

Said the expert: "That soil of yours, when you get it tamed, will be the most wonderful grower you ever knew. What it needs is lowering the water table about six inches, or else, what is the same thing, raising the soil about six inches. But, above all, it needs plant bacteria. What the roots live and grow on is bacterial life coming from the humus or loam in the soil. Your soil is sour and the acids accumulating in your forest soil for ages kill your vegetable bacterial growth as fast as it starts. What you need is a season of sunlight on that garden, two hundred pounds each of lime or land plaster to sweeten the soil; two hundred pounds of bone meal and at least four wagon loads of manure. Spread these on your garden in the fall, plow it in, and next spring I'll warrant you'll grow the prize vegetables of your section!"

He spoke just in time, for I had about made up my mind to turn the garden into a tennis court. Acting on his advice, during the rest of July and part of August I let it grow up to weeds. Seven of the trees which I had planted well up on filled ashes and field soil were thriving, and the garden level was beginning to rise by that steady process of accumulation which is always going on in a growing proposition (for four-fifths of the bulk of plant and weed life is taken out of the air). Just before the weeds went to seed I started work by scything them down all over the garden. The first load of manure arrived and also 100 new strawberry plants, and about the end of August I plowed under half of the east garden to make a new berry bed. This part of the garden was always high and did not need fill. I used half of the manure pile in mellowing it, and the other half was planted with the young strawberries, a shovelful to each plant. Next June they were wonder berries of that neighborhood! There's nothing like good old manure to make the garden grow! My, but that was a busy fall! First came fifteen wagon loads of field soil, which were spread evenly over the whole garden, raising it about six inches. Then on went the land plaster, 200 pounds of it, and then 200 pounds of bone meal

and two wagon loads of manure. This whole dressing was then plowed under with the wheel hoe.

The stumps of two big maples which stood side by side in the garden were next taken out, burnt, and their ashes spread over the soil. I stood aghast at the hole they left, as it was about eight feet by six and three feet deep, and I was at a loss how to fill it. However, when people want a hot frame in their garden they usually begin by digging just such a hole as I already had, so I simply filled it with two wagon loads of fresh horse manure and put up a frame 6 feet x 7 feet of 7/8-inch x 12-inch yellow pine boards, and on them put two hot-frame sashes, thereby making me a hotbed out of a vexatious hole in the garden! The mill size of these sashes is 6 feet x 3 feet, and they cost \$3.00 each. A headboard and footboard made up the difference between my frame and sash size, after which six inches of rich manure and field soil went in on top of the manure fill. The hot frame received two coats of white paint, and was sown to lettuce forthwith, which soon came up, and we enjoyed fresh lettuce all that winter.

This job was hardly finished when the new fruit trees arrived. I made up my mind that it was a mistake to plant such large trees as apples along the south border of the garden, because of the shade they would inevitably cast, so we decided on a line of peach trees spaced 10 feet apart, with a bed of dahlias in between each peach tree, making a solid wall dividing the garden from the rear lawn. This, with a rose arch over the garden entrance and a solid border of pansies in front of the dahlias clear across the garden, would give a pleasing effect as viewed from the rear lawn (as this latter is always a favorite camping ground for my family). So these peaches went in first; two Elbertas (a splendid fall market variety), two Crawford lates (white and juicy) and the two Crawford Earlys flanking the garden gate, which, having been planted on an ash fill, had survived from the first garden. Half way down the main garden path and ten feet apart went in two new cherries—Black Tartarian and a Governor Wood. The former we used to call "Oxhearts" when I was a boy, and the latter is an early red-and-yellow sort. Along the west border of the driveway I put in two Kieffer pears and a Champion Quince. Kieffer does splendidly all over South Jersey, a rich, juicy pear, larger than Bartlett. Mine grew to be ten feet high their first year.

All these trees and brambles were planted mound style; that is, a shallow hole in the soil, good, rich earth packed tight about the roots, next a shovelful of manure, and finally a mound of garden soil piled up to cover the graft joint onto the root.

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Trees put in in late October start considerable root budding before the hard frosts reach them in December, and in the spring they get time to make a lot of root-growth before the sap rises in April and the buds begin to come out. Trees put in as late as the middle of May may succeed, but it's a toss-up, for the leaves begin to demand sap before the roots can get a start to supply it, and all the sap dormant in the root and trunk is soon exhausted. After dropping its first leaves, it will still grow another set, and then if sap is not forthcoming from the roots the tree will inevitably die.

I was very uneasy about planting any more trees along the back border of the garden, though that is theoretically the ideal place for them. This was the lowest ground in my particular garden and everything had died there the first year, even the hardy privet hedge. The new fill, however, had raised this nearly a foot above the main traverse drain, but still I feared the overhanging branches of the forest trees shutting out the direct sunlight at high noon. Two Early Harvest yellow apples had survived here, however, and were getting along slowly, having been planted on high spots, so I decided to risk a row of ten currant berries (Industry), all of which did well the succeeding summer. Here also, next to the drain, I decided to put the new asparagus plants, of which I had ordered fifty three-year roots to replace the hundred two-year roots which had all died. Asparagus must have a permanent bed of its own, in rich, dry soil not likely to be disturbed by annual plantings of vegetables, so where could they be better put than in the rear border of the garden, in front of the currant bushes and behind the main drain? The old location in the east garden I foresaw would be soon wanted by the new strawberry runners, of which we would have at least 300 to find room for the next fall. No almanac or seed catalogue that I know of tells you how to set asparagus roots, though they tell you how far apart and what kind of soil to put them in. The thing to do is to dig a trench about a foot deep and two feet wide and set the plants in well-rotted manure in two rows, 18 inches apart in the rows, "staggering" the rows; that is, one row ahead of the other nine inches. Fill back the trench soil so as to cover the tops of the roots about four inches. Two years later, when you begin to use the shoots for the table, build a blanching mound over them of loose loam a foot high, and cut the shoots off side-wise through this mound with an asparagus knife.

Editor's Note.—This is the first of a series of four articles that Mr. Miller has written on his garden. The next appears in April—"Slave of a Wheel-hoe"—a fascinating story of garden work.



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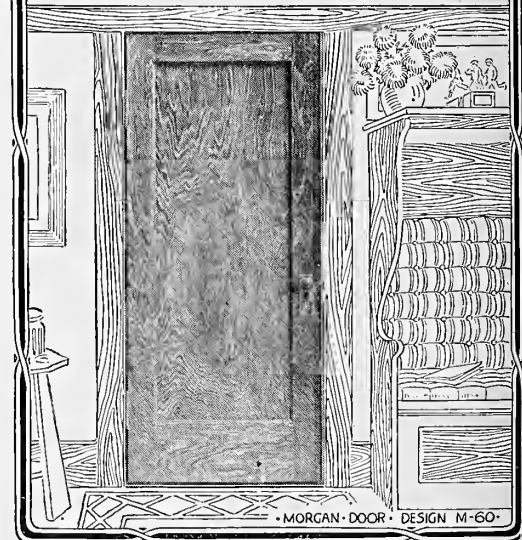
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The Uses of Woodwork in Interior Decoration

(Continued from page 169)

who, writing in the Age of Augustus Cæsar, warned against the affectation of heavy plaster cornices, lest they fall. But Adam did not use the Lime-Stucco of the Ancients, but a sort of dead Plaster of Paris, mixed with fibre and glue to hold it together—a poor material, one would think.

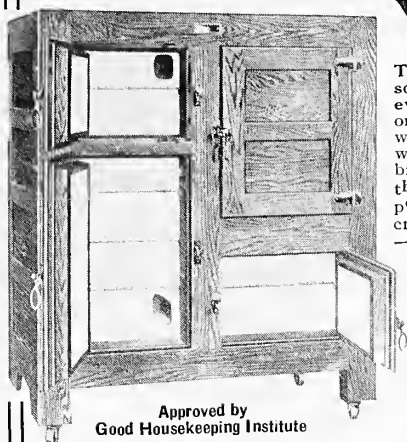
It might be interesting to digress somewhat on this general subject. Lime, Plaster, Stucco, Mortar, Plaster of Paris, Cement, Concrete—these names are generally used so loosely and incorrectly that it is difficult to make oneself understood in writing about them. The other day a client spoke to me about disliking concrete houses. I completely misunderstood him, rather stupidly, I confess, but, as I disliked what I understood by "concrete houses," too, it did not matter. Of course, he meant a house with a facing of cement and sand, generally called a "stuccoed" house, or a "rough-cast" house; structurally its walls might be of hollow tile or wood-frame and wire lath, or brick, or anything else. He did not refer to the construction. I thought he meant a house with walls built of concrete, the sort of a house that Edison has so glowingly recommended, cast in one piece—walls, floors, roof and all, in one day, in a series of iron moulds—or the house built of great concrete slabs, that the Sage Foundation first tried at Forest Hills Park, and discarded later, preferring houses of other material.

This is merely a case in point; let us examine what these terms generally are understood to mean by architect or builder. There are only three active materials involved—Lime, Plaster of Paris, Cement. Each is obtained by roasting or calcining rock; each is mixed with sand and water before using, and all harden in what seems at first a more or less similar way. As to their differences, here they are:

Lime: Made from roasting Marble, Calcite, Limestone, Chalk, Oyster Shells, which, chemically, are all Calcium Carbonate, or CaCO_3 , differing among themselves only in their form of crystallization. By this process Carbonic Acid Gas, or " CO_2 ," is driven from the stone and leaves the pure white material we call Quicklime, unslaked lime, or, chemically, Calcium Oxide or CaO .

Quicklime longs for its old companions; its hands are outstretched; leave it alone, exposed to the air, and quietly, unobtrusively, it seizes every molecule of Carbonic Gas that comes near, and before we are aware of a change, behold our sack of Quicklime has become crumbly, air-slaked Lime! Of no more use is it for building; it might be used as a fertilizer or to make an indifferent, poor whitewash,

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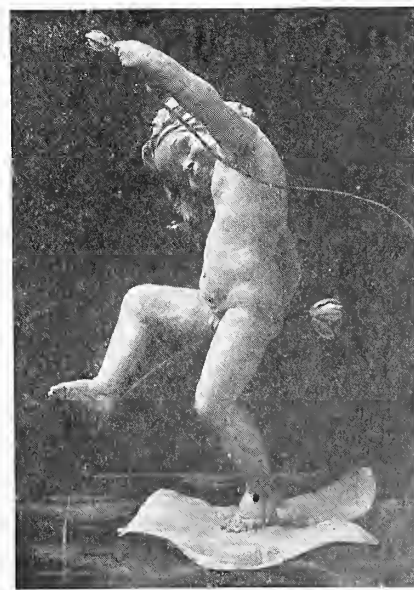
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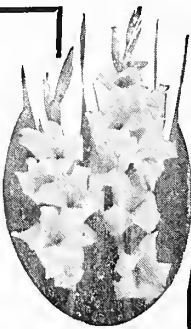
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but for little else. Put it in a pail of water and it sinks, inert, to the bottom like a white mud; such molecules which have not found their Carbonic Acid mates will accept the water instead, and there is a certain amount of bubbling.

For Quicklime has also a strong affinity for water, and changes to Calcium Hydroxide with enthusiasm, with great bubbling and heat, with steam arising and a vast to-do.

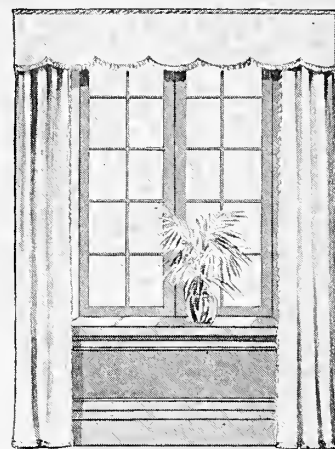
This Calcium Hydroxide, or Hydrated Lime or Slaked Lime (not Air-slaked Lime) or Line Putty, or "Fine Stuff," is what is used in building. Mixed with sand it formed the only mortar generally used throughout Northern Europe and the United States until Portland Cement was developed in the last century.

The slaked-lime and sand, too, mixed with cattle hair and called "Coarse Stuff," is used for the first coats of the common inside plastering of houses: formerly it was used for the finishing coat, too, though without the hair. Its disadvantages are its slowness to dry and the difficulty of slaking the Quicklime: for, notwithstanding its violent bubbling and steaming when water is poured on, there always are a few particles which resist the water, which prefer their single state and will not unite, despite the Italian with his hoe. Time alone seems to solve the difficulty: all architectural specifications call for the lime to be slaked "at least three weeks before using," or sometimes "three months;" the old Romans, Pliny tells us, had a civil law by which it had to slake for three years before anyone could use it! The longer it slakes, the better it becomes.

On the wall it dries out and "sets" in a day or two; but a very slow change begins which is not completed for hundreds of years, perhaps—the divorcing of the water and substitution of such Carbonic Acid Gas as it can absorb from the air, when it has returned to its original form and is actually artificial limestone, very hard and strong.

Plaster of Paris is the next to consider. It is formed by roasting Gypsum or Alabaster, which are chemically Calcium Sulphate + Water. The roasting drives off part of the water, leaving the fine powder we know as Plaster of Paris. Mix it with water and part of the water is absorbed; it quickly hardens into its original chemical state, though it never gets as hard as the Gypsum it was made from, nor as hard as Lime does. It swells slightly as it "sets," so fills moulds well. Therefore it is the material always used for cast decorations.

It does not stand the weather as lime will; rain disintegrates it, so it is not used out-of-doors. Mixed with slaked lime, however, it sets slowly, taking hours, instead of minutes, and is used for the last coat of inside house-plastering. Formerly



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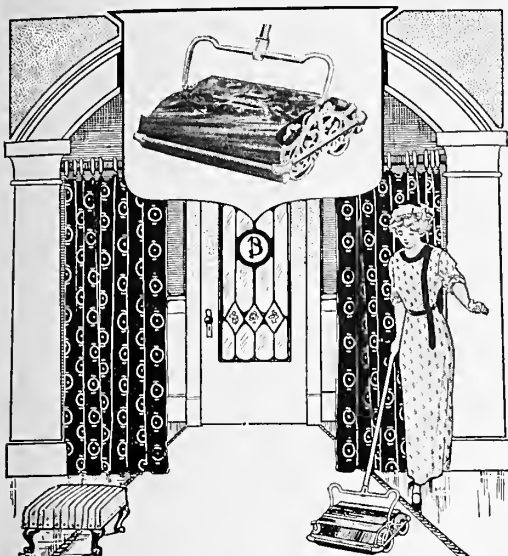
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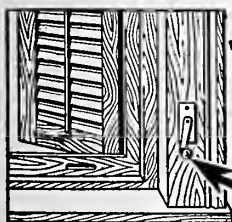
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only lime was used, as we said before; Plaster of Paris is a comparatively recent discovery—or rediscovery—since the interiors of some of the earliest Egyptian tombs were coated with this material.

Cement is the last of the three. It is somewhat like lime, but much more complicated chemically. Until a very few years ago—in the eighteen hundreds—it was produced by calcining (roasting) a volcanic or a sedimentary rock which naturally contained the proper ingredients; this cement is known as Roman, Puzzuolanic, Rosendale; now the best of our cement, and by far the most of it, is produced by calcining an artificial mixture of the proper ingredients; there is nothing left to chance; we are sure of our product, which is stronger than the old natural cement; we call it Portland Cement.

Cement does not need to dry out in order to set, but a little water will cause it to set anywhere, under any condition; under water, as well as in the air; so, like Plaster of Paris, it must be wet only immediately before use; if it once starts to set and the "set" is broken, it will never be so strong again. There is no need for this; it takes several hours for the Initial "Set," not several minutes, like Plaster of Paris. However, it is sometimes mixed with lime in the same way, to retard the setting. If the final set has once started, the cement must not be disturbed, or it is not fit to use again; therefore, no wet cement can be kept in good condition over night for use in the morning; though I find that the smaller and irresponsible Italian contractors are prone to attempt it, breaking up the left-over material and mixing it with a little new. Its hardening power has gone, though, and it is not much better than so much sand.

Sand does not take a chemically active part with either Lime or Cement; it merely dilutes the material, and, if in proper proportions, it makes the hardened material less apt to shrink and crack. Cement particularly has a superabundance of strength; it would be wasteful to build a wall of cement and sand alone, so small stones or clean cinders are mixed with the cement and sand, and this triple mixture is *Concrete*.

As to the terms Mortar, Stucco or Plaster, they do not describe special materials, but indicate where the materials are used; though the word "Plaster" is sometimes carelessly used as an abbreviation of "Plaster of Paris," and is misleading.

Mortar is the material that fastens stones or bricks together in a building; it may be Lime Mortar, lime and sand; or Cement Mortar, cement and sand.

Plaster, or Plastering, is the wall and ceiling covering. A room may be plastered with lime and sand, with Plaster of Paris, lime and sand, or with cement and sand; a house may be plastered outside with Lime and Sand, or with Cement and Sand; or, in the case of old houses in the



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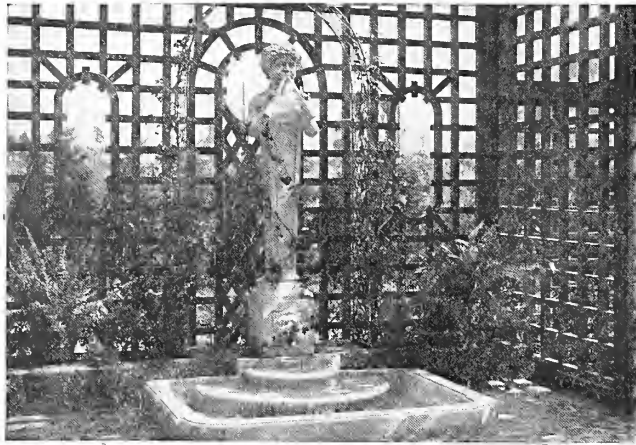
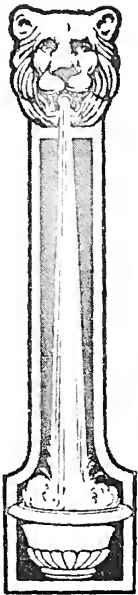
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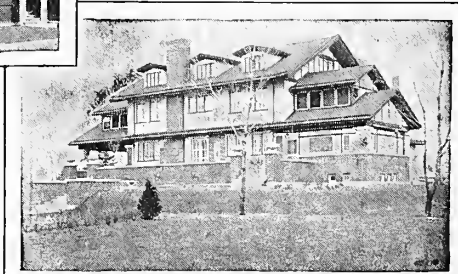


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Southwest, plastered with Mud. The Plastering is the Covering; it has no reference to a particular material.

Stucco, as used now in America, means simply Outside Plastering. It used to refer to a certain material composed of Lime, Sand and Marble-dust, but this meaning is lost.

My client should have said a "Plastered House," or a "Stuccoed House." A "Concrete House" is far from what he meant. But all this has nothing to do with Robert Adam and his style. He introduced a curious material for plastering or stuccoing his buildings outside, and kept the exact formula secret, I believe; he had bought it from an Italian. Inside for his ornament he used a mixture of "dead" or "set" Plaster of Paris, some sort of fiber and an unknown glutenous compound, the mixture, as we have said, poured hot into metal moulds. We do not know exactly what it was; but the material is unimportant. His interiors would have been just as good in ordinary Plaster of Paris and Lime; perhaps better.

We are behind him in design—the average of us—but we have plastering materials at our command of which he never dreamed. They are all combinations of our elemental three, Lime, Plaster of Paris and Cement, but so many combinations are there, with so many inert materials! Selentic Cement, Parian Cement, Keene's Cement, Adamant Plaster, Scagliola, Marezzo, and the various kinds of outside plastering, such as Sgraffito, Depetter, Rough Cast, Pebble Dark, and all the various imitations of stone.

Let us throw up our hands and stop, or we will soon have a text-book on "Plastering!"

Efficiency in the Flower Garden—II

(Continued from page 161)

be just right. It must be a soil that will absorb and hold a great deal of water. It must also be fine and light, so that the sprouting seeds may push up through it readily. Decomposed sod, or garden loam with as much fibrous matter in it as possible; leaf mold, or chip-dirt or cocoanut fibre, and sand or very finely sifted coal ashes, are the ingredients required. Mix the loam and leaf mould in equal portions and add as much of the sand as is needed to "cut" the mixture thoroughly, making it so that when a handful of it is squeezed up into a ball it will crumble apart under the touch of the finger when released. After these things are mixed together run them through a sieve—an ash-sifter will answer the purpose, if you haven't one you use especially for your garden work. While flower-pots are sometimes used for starting seeds in, it is exceedingly difficult to keep the soil in them at an even degree of moisture, and results are likely to be unsatisfactory. Seed-pans, which are made for the purpose and are inexpensive,

are much better. If you have to use a pot, take a comparatively large one, and, after filling it about a third full, place a small pot in the center of it and fill the prepared soil around this, leaving it empty. Sow the seeds on the surface of the soil between the two pots and apply water through the inside pot, which is plugged at the bottom. Or the soil may be put in the small pot and the space between the pots stuffed with moss, which is kept evenly moist. In either case the water passes slowly through the porous sides of the smaller pot, keeping the soil moist without getting it wet. A light of glass over the pots, raised slightly at one side to admit air, will also help to conserve the moisture. While this method is good for very fine seed, like that of begonias or petunias, small, shallow wooden boxes, which may vary in size from a cigar box to a cracker-box "flat," may be used with more convenience and as much success for the majority of the flower seeds.

A number of different sorts may be started together in the same box, but be careful to tag each one as you plant it. Do not cover the seeds too deep. Very fine seeds should be merely pressed into the moist soil with a brick or piece of flat board, and covered with a thin layer of cocoanut fibre or sifted moss to shade the little sprouts until they begin to bury themselves in the soil. The small flower seeds should be covered an eighth to a fourth of an inch deep—the old rule is two to three times their diameter when sown inside, and three to four times when sown outdoors. Larger things, such as sweet peas, should go from a quarter to half an inch deep. Very hard seeds, such as moon-flowers, cannas and musa (banana), should be carefully filed or cut through and soaked a day or two in tepid water before planting.

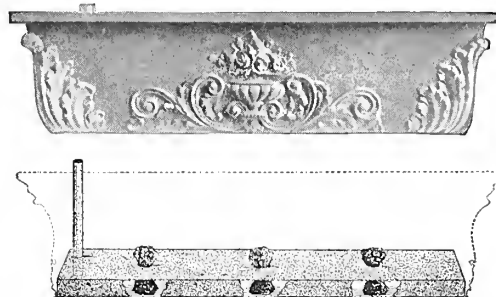
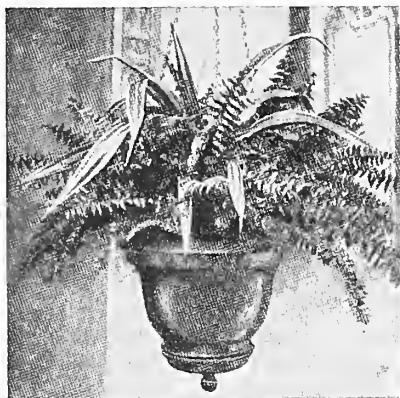
Seed-beds made for flowers in a cold-frame or outdoors in some sheltered spot should be carefully drained, preferably by having a layer of coal ashes two or three inches thick put down, and the three or four inches of surface soil should be prepared as above. A little bed only a few feet square will serve for starting a great many plants. The rows of most sorts may be made as close as three or four inches, if it is intended to transplant the seedlings. If one expects to thin them out and grow them where sown until ready for changing to the garden, they should be allowed more room.

In sowing flowers in the open where they are to bloom, every possible care should be taken to provide a fresh, finely pulverized seed bed. A liberal dressing of manure or fertilizer should be added to it before the seed is put in.

Among the best of the flowers which may be started from seed to flower the first year are: African daisy, allysum, ageratum, antirrhinum, asters, balsam, begonia, calliopsis, cannas, candytuft, mar-

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The tube in the left hand corner extends upward for the purpose of pouring water into the reservoir in bottom which supplies moisture to the roots of plants through sponges and holds sufficient water to last 10 to 20 days.

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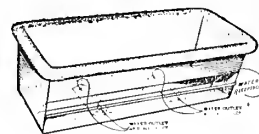
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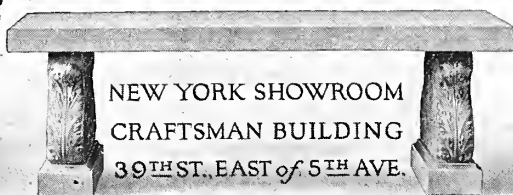
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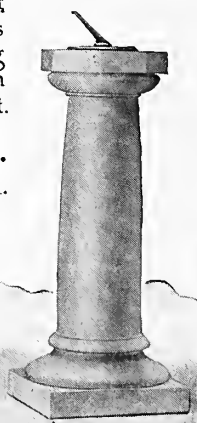
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Vines and trailing plants which may be grown from seed: Balloon vine, canary-bird vine, coboea, cardinal climber, cypress vine, dolichos, gourds, Japanese hop, moonflowers, morning glories, nasturtiums, sweet peas, thunbergia.

The Unusual in Table Linen

(Continued from page 181)

the edges finished with a narrow hem, as was the tablecloth. Such a set is inexpensive and easy to make, since it is all done with a coarse thread.

Cross-stitch cloths and napkins are always attractive, especially when the pattern is compact and the stitches small. They go especially well in Colonial dining-rooms.

In the shops are being shown handwoven linens from Russia decorated with red designs set in bands. They prove serviceable for tea or the light supper.

The conventional pink and blue flowered china requires a damask of smooth texture, so, in the event of our luncheon or breakfast sets not being of a sturdier make and design, it is advisable to keep to the ordinary damask. Among the attractive damask covers is one blocked in yellow and white, others have blue borders. These are especially appropriate for tea in summer on the porch. Little weights attached to the corners will prevent the wind from curling them up or blowing them away.

For a reception, a filet or open-work cloth laid over a colored silk damask gives a rich effect. Especially luxurious is it when the damask is yellow, the china gold, and white and gilt candlesticks are used. Which is another way of saying that color is more and more being used in table linen.

A Solution of Cold-Frame Inconveniences

WHEN the calendar and the annual crop of horticultural catalogs announce that spring is really not so far away as it seems, the soils-and-seeds enthusiast without a greenhouse is prone to long for something between a hotbed and out in the open. There are flats to be prepared and soil to be dried and pulverized; seeds are to be unpacked and planted early; innumerable little fussings and fixings suggest themselves but retire before the boisterous and inconvenient conditions obtaining about the average home garden at this time of year.

It was to make comfortable and pleasant these necessary pre-season activities that the glass-fronted workroom illustrated on this page was devised—a cross, in effect, between a greenhouse and a cold-frame,

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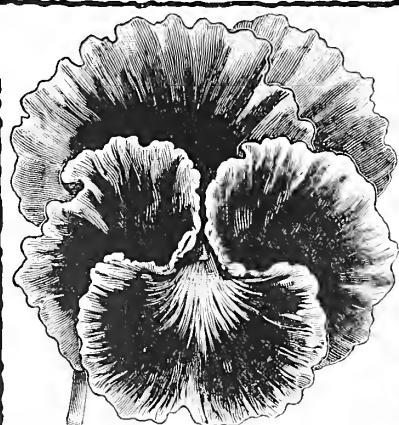
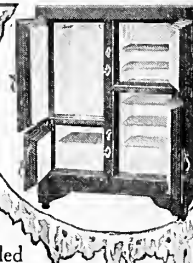
Are the only refrigerators made having the entire ice chamber of one piece of genuine solid porcelain ware over an inch thick without a seam, joint, crack or sharp square corner or edge. Guaranteed against cracking or breaking.

You can appreciate how really permanently safe and sanitary these are and the decided advantages they offer.

Each food compartment too is of one piece without seams or joints, (Not enamel on iron or steel), but real solid porcelain ware.

The circulation is right. The walls are five inches thick, solidly insulated (thicker than any other) require less ice. Many sizes. To ice from outside if wanted. Special sizes to order. Our catalog will be to your advantage.

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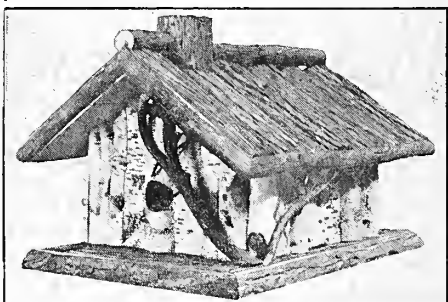
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Send 10 cents, mention this paper, we will enclose in the catalogue a packet of the above GIANT pansy.



No. 11 No. 12 No. 13
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The Crescent Company, "Birdville" Toms River, N. J.

with many of the advantages of the former, most of the latter's, and some of its own thrown in for good measure. It is the *de luxe* edition of the conventional frame, wherein one crouches in cramped attitudes and fear lest the seedlings be nipped by the cold before the sash can be replaced; it does its work efficiently and it is inexpensive to build.

The chief requirements for the construction of such a place are a perpendicular out-building wall with a southern exposure, four or five standard hotbed sashes, some 2 x 4 joists and rough boards, and a roll of tar paper to cover the roof and ends. The photographs show the



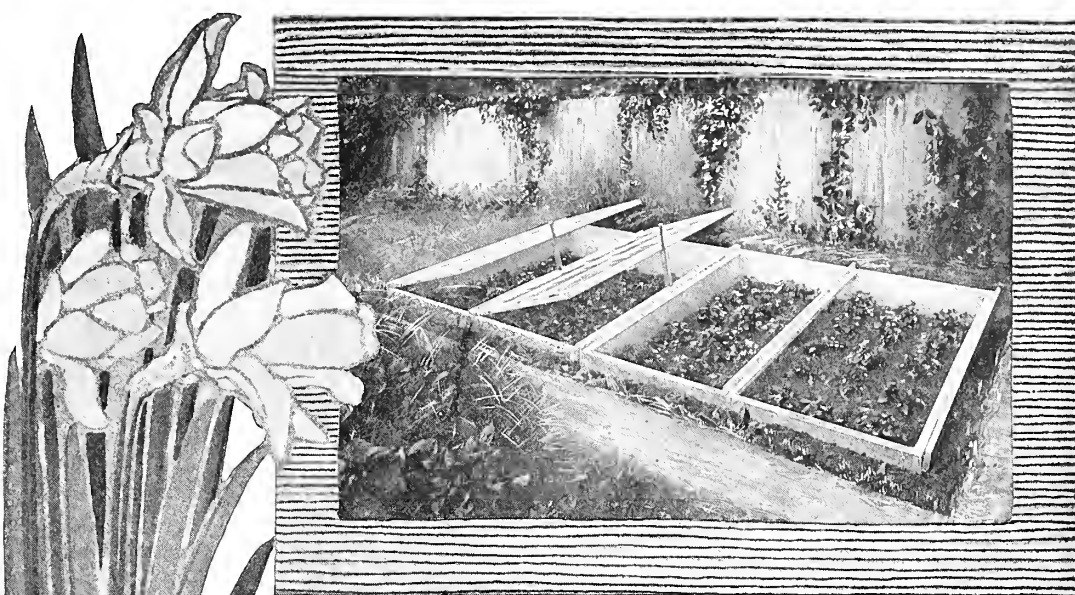
The roof is covered with tar paper and slants enough to shed rain

general plan of construction, which can be varied to meet individual requirements. In this particular case the beds are level with the outside ground, for the entrance doorway connects with an out-building whose floor is sunk four feet below the surface, but there is no reason why they should not be built up to conform to other situations. The beds should not be more than ten inches from the glass at its lower end, for the nearer they are the better



Glass-fronted workroom built against the south wall of out-buildings

will the plants grow and the more easily they may be ventilated. For ventilating, the sashes are simply lifted from the cleats at the lower end and slid the required distance down their runways, thus leaving openings at the top. This must be carefully attended to, for though the temperature will run high during the middle of a sunny day, the ground itself remains quite cold and the plants will damp off quickly



A four sash standard frame, 12 ft. x 6. Price \$23.90

How to Give Your Garden a Running Start

THE latter part of last winter, you will remember, was just the kind that made you think that "spring is going to be early this year." But it wasn't. It lagged along until some of us had to plant our gardens all over again, and others said: "What's the use, anyway, of trying to have an early garden any more in this confounded climate?"

Along in February we reminded you that Cold Frames or Hot Beds were the only sure insurance against a late garden. We even went so far as to say pretty strongly, that you ought to buy some of our Frames—even if only ten of the Single Plant ones for \$6.25, and boost your garden along two to six weeks.

This year you are going to buy frames—you made up your mind to that, eight months ago.

This being so, as it certainly is so, then the thing for you to do; is send at once for our Two P's Booklet, which tells you about the Pleasure and Profit of Cold Frames and Hot Beds.

We have seven different sizes and kinds of these frames, or garden boosters.

Send your order now (when we can ship at once) and have them ready for the first signs of Spring.

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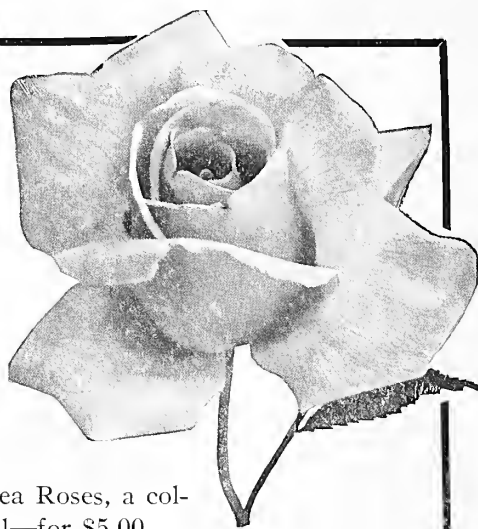
Special: The "Dreer Dozen" Hybrid-Tea Roses, a collection of high-grade sorts, that always do well—for \$5.00.

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without proper air. Regular greenhouse benches instead of the solid beds would lessen this contrast of soil and air temperatures.

The sunken pathway is a great convenience, for it does away with tiresome stooping over the beds. The work-bench at the back, too, is invaluable as a place to prepare the flats; their seed can be thoroughly pulverized and mixed without danger from the wind; and, surrounded by a delightfully warm atmosphere, one can work all day in comfort. By April first it is safe to plant lima beans, squash, melon and cucumber seed in small pots set in flats. Most of these would rot or burst in the hotbed, but at least two weeks can be gained, especially with the squash, by starting them in the glass-front room.

Quite contrary to what one would expect, this near-greenhouse is not good for transplanting from the hotbed. In the spring it is a workroom and cold-frame rather than a forcing-house, for plants ac-

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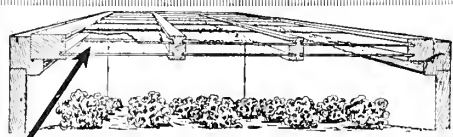
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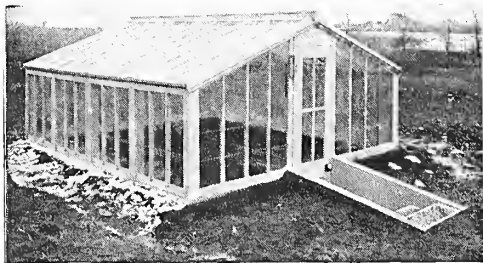
And you can have neither unless you use hot-bed sash.

Sunlight Double Glass Sash make the earliest and strongest plants at the least cost of money and labor. They are complete **without** mats and shutters. Just put them on your hot-bed or cold frame and then watch the plants grow—not too fast—not spindling—but steadily and strongly. Thus they are fitted to keep on growing when transferred to the open ground.

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The sashes are set at an acute angle to catch the sun's rays

customed to bottom heat will stand still when deprived of it; yet there are few weeks in the year when the little room is not in use.

In July, for instance, when the sashes have been replaced by a covering of coarse cheesecloth, perennial and biennial seeds are sown here in patches or drills and carried through the first transplanting. The cheesecloth affords sufficient protection from direct sunlight and the beating of heavy rain, yet admits light enough to induce good growth. As soon as the seedlings begin to grow after transplanting, it should be rolled back except during the intense heat of midday, thus preparing them for full sunlight at the second moving. Columbine, dianthus, campanula, hollyhocks, and especially those seeds which are slow to germinate, will do well under these conditions.

Early in August pansies may be sown,

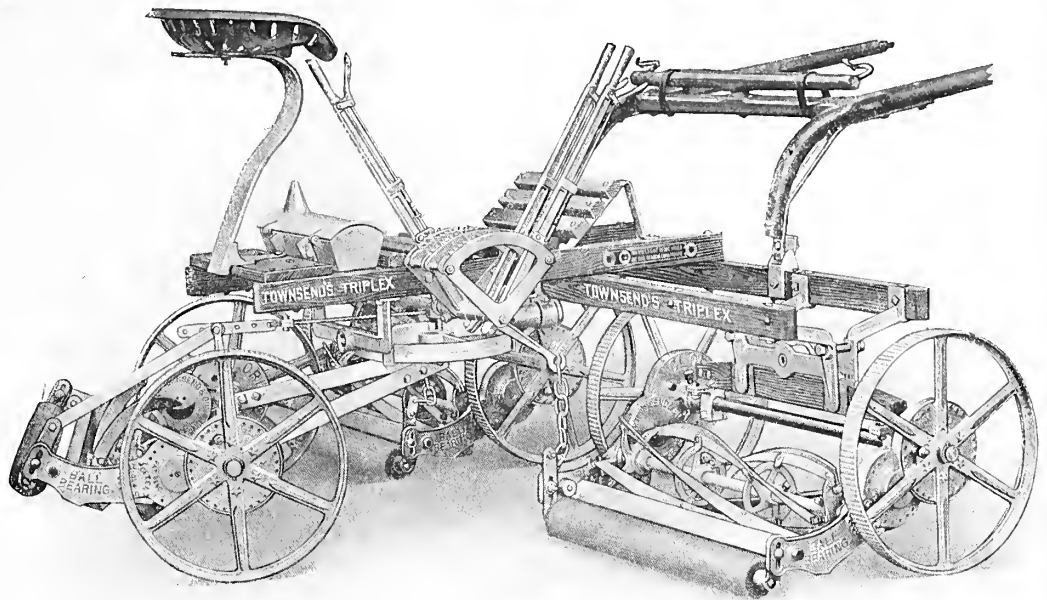
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Drawn by one horse and operated by one man, it will mow more lawn in a day than any three other horse drawn mowers with three horses and three men. (We guarantee this.)



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tells of the favorite plants that make the hardy garden an endless joy from the earliest days of spring to the time when the plants must be covered for their winter sleep. It is a book—rather than a mere catalogue—describing in an extremely interesting way the habits, the form, the likes and dislikes of my favorite perennial plants, with notes about the time of blooming and colors of the flowers. There are many illustrations of my Irises, Peonies,

Delphiniums, Aquilegias, hardy Chrysanthemums, with twelve full page plates in natural colors, (reproduced from Lumiere plates) just as the flowers grew here at Wyomissing.

Over Five Hundred Varieties of Peonies

are accurately described, the text having been prepared from my own field notes. The book includes the Irises as well as the Peonies, classifying and describing the hundreds of varieties and telling how and where to grow them. Other favorite hardy plants described are the Phloxes, Asters, Poppies, a choice selection of Roses together with a unique collection of the new and rare Lilacs.

This Book is for You

if you write for it. I trust that it will be an inspiration to you, as its predecessors have been to others who love the many hardy plants that are a never-failing source of delight, making the hardy garden a place of recreation and rest.

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The orchid-flowering strain branches freely from the main stem, forming fine, spreading plants, flowering from all branches, making it invaluable for cutting.

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For 25 cents, in coin or stamps, we will send one packet each of the six separate varieties listed above, which if purchased separately would cost 60 cents.

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Sold by Garden Supply Houses Everywhere

the small plants set out in the garden, and late in September lifted back into the greenhouse on which the sashes should be replaced about October 15. By Thanksgiving Day the pansies will begin to show buds or even a few blooms and will make fine plants for budding out in April. Clumps of hardy chrysanthemums may also be lifted in August and set near the edge of the bed, close to the sunken path. Their branches will, of course, turn somewhat from the wall, but the flowers will be quite satisfactory and the season of bloom considerably prolonged.

About August 15 begin with the first sowings of lettuce in the work-room beds, and repeat every two weeks until October. Make the plantings small and scatter the seed well, thus avoiding weak and useless seedlings. The variety which shows red edges on its leaves, and one of whose names is mignonette lettuce, will be found most satisfactory for this work, as it stands the cold well and much of it will winter over and begin to grow again in the warm weather. Its ability to carry things through the cold weather is indeed one of the most valuable features of the pseudo-greenhouse—R. S. Lemmon.

The Water Hyacinth

JOHN BURROUGHS says there are no morals or ethics in nature. Strong plants overgrow the weak and usurp the territory. This aggression is less common in the water than the land, yet one of the most prominent examples in nature is the water hyacinth. Within the past decade it has been more closely observed, written about and strenuously dealt with than any plant in the United States, if the Canada thistle is excepted.

When first introduced from Guiana as an ornamental aquatic it became vastly popular. Its magic growth and rapid florescence excited interest and admiration.

The fact soon became apparent that no aquarium of average size could support such powerful growth except for brief periods. From aquaria large divisions of the plants were turned into more commodious water-tanks, and fertile soil in the bottoms encouraged growth. Tanks overgrown, ponds, lakes, running streams, and even bayous, were beautified by new plantations. The rapidity with which it colonized all still waters and slowly running streams was a matter of congratulation. This condition of things prevailed for only about three years, when objections were urged against the aggressive spread of the plant. It covered ponds, lakes and bayous from bank to bank. Canals were so densely overgrown that plants had to be cleared out and destroyed. Navigable streams became impeded to such an extent that strenuous measures were adopted to eradicate the plant and prevent its further increase. Great care was exercised to keep it within already-infected limits. Wherever one root found

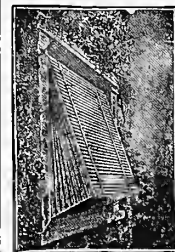


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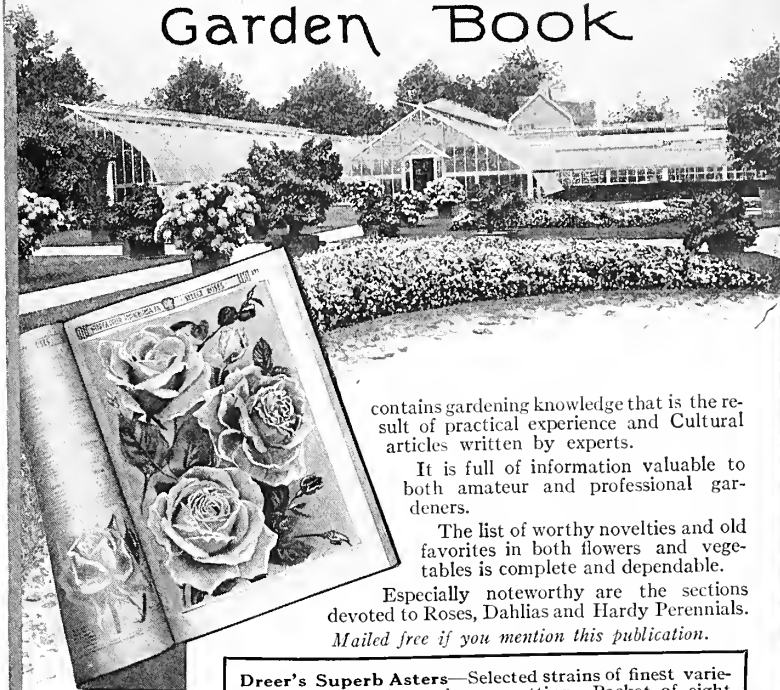
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Peony-Flowered Dahlia

its way to water the increase and spread was immediate. It is not surprising that it thus naturalized itself when it is considered to what class it belongs.

Named after the botanist Pontederia in the sixteenth century, this genus of monocotyledonous plants numbers eight American species. *Pontederia cordatus*, the pickerel weed, is the most widely common. Several former species are not now classed with that genus, but separated as the genus *eichornia*, the most distinguished of the two species, *E. crassipes major*, known under several local names. In Jamaica it is called the bladder-stalked pickerel weed; in Guiana, the gamalote or water plantain, and in the United States, the water hyacinth.

The specific name, bladder-stalked pickerel weed, is derived from the curiously inflated stems. This balloon-like stem construction naturally supports the plant, enabling it to float upon the surface of the water with the many clustered roots depending. Filled with delicate, spongy air-cells, the inflated stems act as buoys, causing decided difference of root growth from the pickerel weeds in general. They spread horizontally over the muddy bottom, whereas the water hyacinth is independent of soil, deriving its sustenance from air and water. The roots, vertical in the water, when shallow will take hold of bottom soil of sand or muck. However, as soon as the water rises and streams increase in depth the plants float on the surface and the roots depend high above the bottom soil.

The water hyacinth advances always in a heavy phalanx. It bears down and overgrows every plant it encounters. Coarse aquatic plants on the margins of running streams afford the water hyacinth protection until a plantation forms; then every plant disappears except the aggressor.

The name water hyacinth is from the similarity of the bloom stalk to that of the hyacinth. The tall, erect bloom-stalk bears twenty flowers, more or less, all around and from base to tip, each the size of a silver half-dollar, exquisitely tinted rosy-lavender, with a gleam of gold in the center. The plant, with equal justice, might be called the water orchid.

In color, size, shape and texture the flower of the water hyacinth bears close resemblance to some of the loveliest of the terrestrial orchids. The crisp, green foliage, shining as if varnished, of the freshest, quickest growth of any plant of land or water, and the beautiful hirsute roots of reddish-purple, softly depending beneath the surface of the water, with the grace of seaweed, add their charms to the loveliness of the flowers.

For its perfect beauty and rapid growth, the water hyacinth is, and always will be, a favorite for aquaria indoors, where every interesting feature can be closely scrutinized, and for water tanks of large sizes, inconspicuous, outdoor po-

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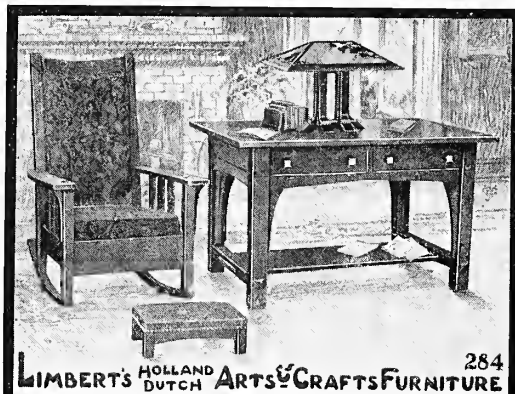
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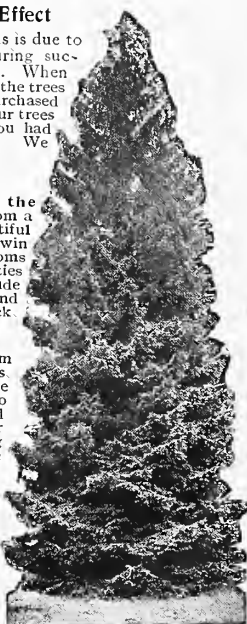
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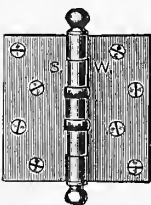
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sitions. It is a close rival of the nelumbium and nymphaea. No water-lily or lotus is as luxuriant and quick in growth, nor as profuse and constant in flowering.

It is only in southern climates where still waters seldom, and running waters never, freeze, that the water hyacinth becomes an evil. In Florida and Louisiana untrammelled growth would be granting a complete monopoly. Impenetrable masses of heavy, green growth would render the passage of small craft impossible, and even the progress of strong and well-equipped vessels over deep waters would be impeded.

Neither in Florida nor Louisiana are these conditions allowed to prevail. Over ten years ago the wild growth of the plant was condemned. Active measures were adopted for its extermination. Harvey's Canal and Bayou Saint John, in New Orleans, and the Saint John's River, in Florida, are prominent examples of its obstruction to navigation and the manner in which it crippled fisheries.

All ordinary remedial agents failed; the plant continued a crying evil. The Government gave efficient aid. Liberal reward was offered for the discovery of some destructive agent. Nothing did more than temporarily check growth. The many chemicals, mechanical devices and modes proposed for the purpose would fill a book if enumerated. Some were applied to the water and some directly to the top growth and crown of the roots. Entomologists sought for insect foes, poisonous to plants. Destructive bacteria did, for a time, materially lessen the growth; it inspired more reasonable hope than any other agent.

Not long ago, Bayou Baratavia and Bayou des Allemands, in Louisiana, were so densely overgrown that important lumber manufacturing plants had to suspend operations until a clearance could be made in order to get the log tows through. The Government has supplemented private business interests quite recently by two vessels specially fitted and equipped for clearing these bayous of the plants. They use a combination of chemicals, which appears to be only of temporary benefit. The two vessels endeavor to cover the entire surface of the bayous with sufficient regularity to keep pace with the rapid growth, so that traffic can proceed; the engineers say there is but little hope of extermination. There is an expressed determination to increase the hyacinth fleet for more extensive operations upon infected waters. One simple method of uprooting and destroying the hyacinth is employed in Bayou St. Johns, which is a very important body of water connecting New Orleans and Lake Ponchartrain. It consists of small boats with long-handled rakes, operated by boatmen, who tear up roots and top growth constantly at all seasons as fast as growth advances. From margin to center these boats push their way through the overgrown waters. Back

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My Friends:

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Through the many expressions of sympathy which have come to us, we are given the courage to start over again. We have the advantage, this time, of all our past experience and the knowledge of Gladioli culture that these years have given.

One of the greatest factors of our loss was the destruction of all mailing-lists, orders placed through the summer, and, in fact, all office records.

If you or your friends are interested in Gladioli we would be very glad to receive names and addresses, if only on a postal card, so that we may send our new catalogue.

With thanks to you for all your past courtesies both to Mrs. Tracy and to myself, I am,

Sincerely yours,

(Signed)

B. Hammond Tracy

For years I have devoted all my time and thought to improving the Gladioli and raising better bulbs. It is both my business and my pleasure. I will gladly answer any questions in regard to the "Orchid of the Garden," its culture, the best varieties, etc. There will be no charge.

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gives a uniform color—no blotched appearance. For interior decoration it is unequaled, being light-reflecting, damp-proof, fire-retarding and easily cleaned.

Our free Booklet 2 contains some ideas that will be of immense help to the man who's planning to build of concrete, stucco or brick. Send for it—it's free.

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Old-Fashioned Hardy Plants

We are the largest growers of Hardy Perennial Plants in this country. We have issued a **special catalogue** of these, giving name, color, height and time of flowering of nearly a thousand species and varieties. Also a number of

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together with list of suitable plants for sun or shade; and full instructions for planting and future care. We will be glad to send you a copy free on request.

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Hardy Plant
Specialists

Philadelphia, Pa.



and forth in this wise, tons and tons of the thickest masses of growth are cleared out and thrown upon the land, where they die as soon as exposed to the sun.

The water hyacinth is strictly confined to fresh water. The opinion prevailed to some extent years ago that it had been driven in by storms across the Gulf of Mexico to the waters of Florida and Louisiana. This opinion arose from the surprise excited when all at once its stupendous growth was realized. The gradual increase had not caused apprehension. In fact, spreading over stagnant waters in malarial districts, and even over large bodies of pure water, the rank, green growth was thought to be beneficial, from the fact that the leaves of plants absorb carbonic acid gas and emit oxygen.

That this beautiful adversary of the waterways of Florida and Louisiana ever crossed salt water, except in a plant collection on shipboard, is not more probable than that the English sparrow first winged its own way to our shores across the Atlantic Ocean.—G. F. D.



Joyous Easterbells

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12 " " " 0.65
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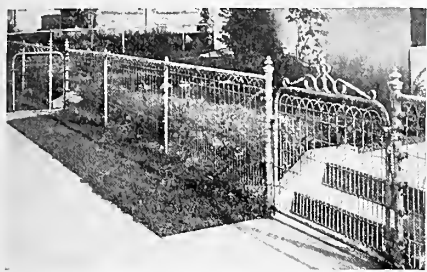
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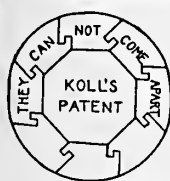


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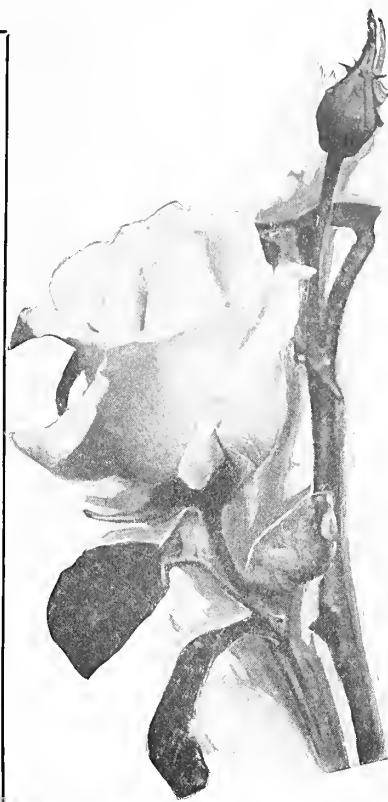
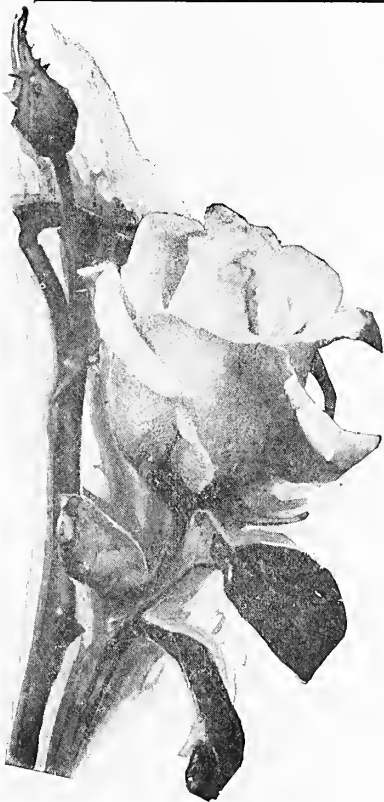
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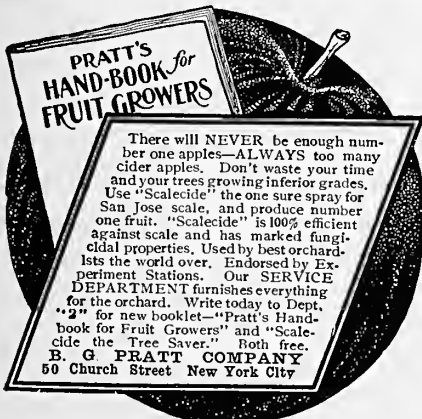


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We have several blooming plants of butterfly weed in our own garden, one that came up of its own accord, and others that have been transplanted from the fields. One is a thick bush measuring a yard across and about two feet high. The past season it bore eighteen flower heads, six to eight inches across. These began to bloom the second week in July and continued in flower for almost two months. The young shoots must be carefully watched for in the spring, as they are very late to appear above ground, coming long after many plants are up and growing. Last summer we undertook to remove the entire root of a young butterfly weed growing on a nearby hillside. When the plant was finally taken up it measured thirty-seven inches from the tip of the root to its lowest leaves. At the same rate, what would be the size of an old, well-established root? More than one of the plants that we have moved have been firmly anchored to a rock. This fact gives us a hint to set them out where the roots can lay hold of some crevice in the rocks.

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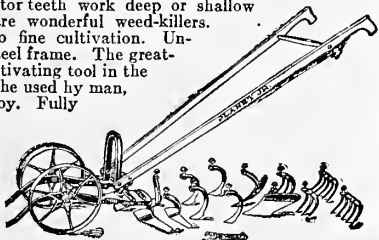
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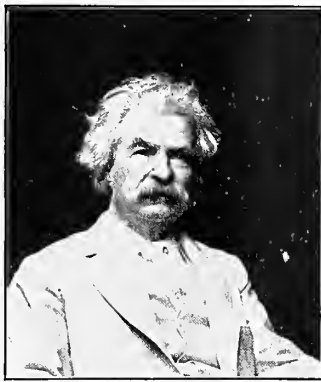
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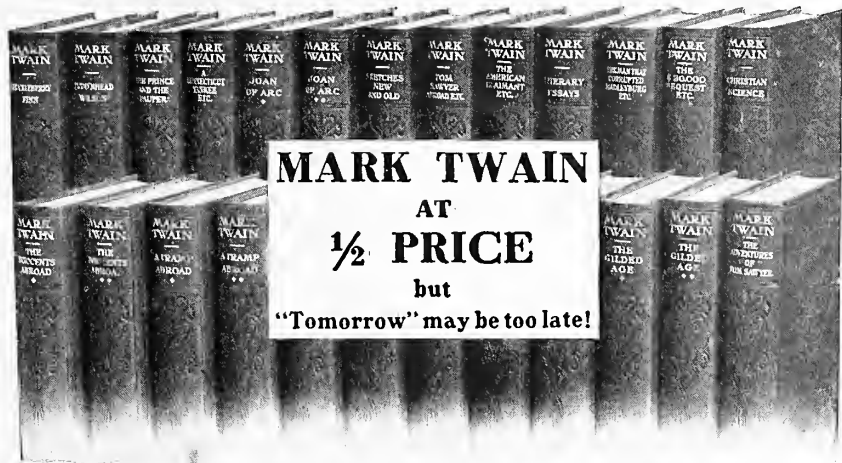
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House Centipede Useful, but Disagreeable

THE house centipede, although disagreeable in appearance, feeds on small cockroaches, the typhoid fly and other still more disagreeable insects, and, therefore, would not seem altogether an undesirable visitor in one's house. However, as one of the Department of Agriculture's entomologists says in a recent Farmers' Bulletin dealing with this insect: "Its uncanny appearance is hardly calculated to inspire confidence, and it will unquestionably bite in self-defense, although very few cases of its having bitten any human being are on record." It does not feed on household goods and woollens, although many housewives hold this belief.

The house centipede is a Southern species, its natural home being in the latitude of Texas, but it has slowly spread northward, and, having reached New York and Massachusetts about thirty years ago, it is now very common in these States and extends westward well beyond the Mississippi. It is a very delicate creature and almost impossible to catch, having a worm-like body about an inch long of a grayish-yellow color. The name "centipede" is misleading, as it does not possess a hundred legs, but no more than thirty, although the speed at which it travels across the floor does not give the ordinary observer sufficient time to count them. Its head is armed with a pair of very long, slender "feelers." The bulletin advises the housekeeper who feels that the centipede has become a pest in her house to use fresh pyrethrum powder near bathrooms, closets, cellars, conservatories and store-rooms where it may hide itself. The suggestion is also given that all moist places should be kept free from any objects, such as flower pots, mops, or dirty rags behind which the insect may conceal itself.

It is very questionable whether the centipede would ever, unprovoked, attack any human being or other large animal, still if it is pressed with the bare hand or foot, or is caught between sheets in beds it will probably bite, and a few cases on record show that severe swelling and pain may result, for the insect belongs to a poisonous group of centipedes. The wound can hardly be called dangerous, however, and prompt dressing with ammonia is recommended to alleviate the disagreeable symptoms. The centipede is in one respect like a spider, in that it springs after its prey and is very rapacious. Trained observers have noticed that in capturing such a pest as a cockroach, the centipede springs over its prey, inclosing and caging it with its many legs, after which it devours its victim. In the act of devouring a moth it has been observed to keep its numerous long legs vibrating with incredible swiftness, giving the appearance of a hazy spot surrounding the fluttering moth.

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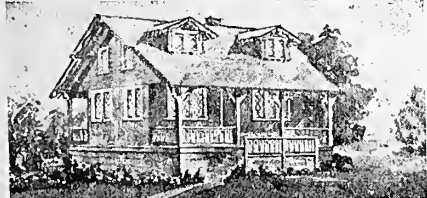
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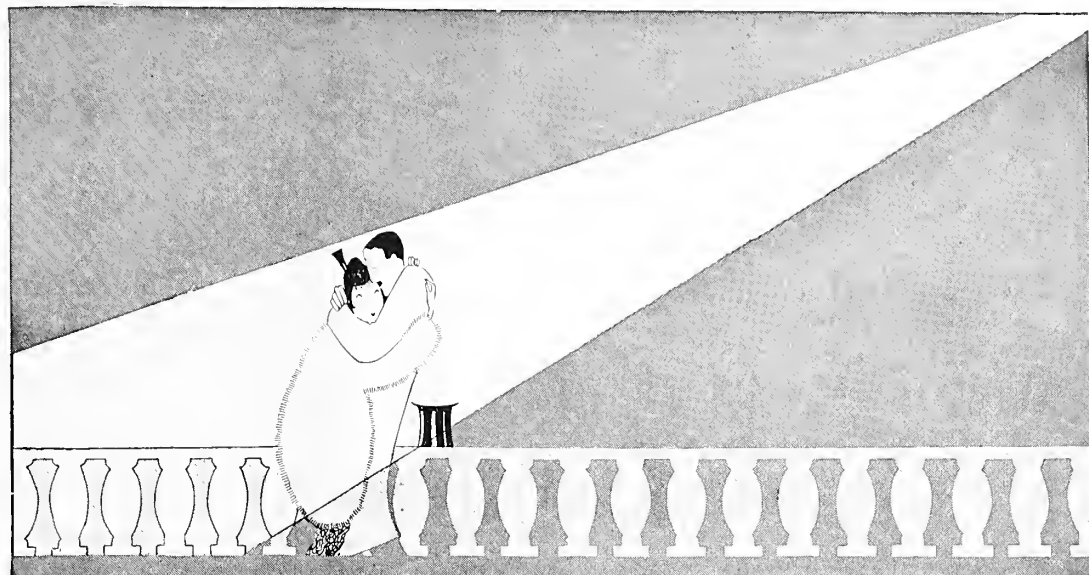
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- 6. Rose Garden.**—6 two-year-old plants: Hybrid Perpetuals—American Beauty, Baroness de Rothschild, Marshall P. Wilder; Climbing Roses—Cecil Brunner, Crimson Rambler, Dorothy Perkins.
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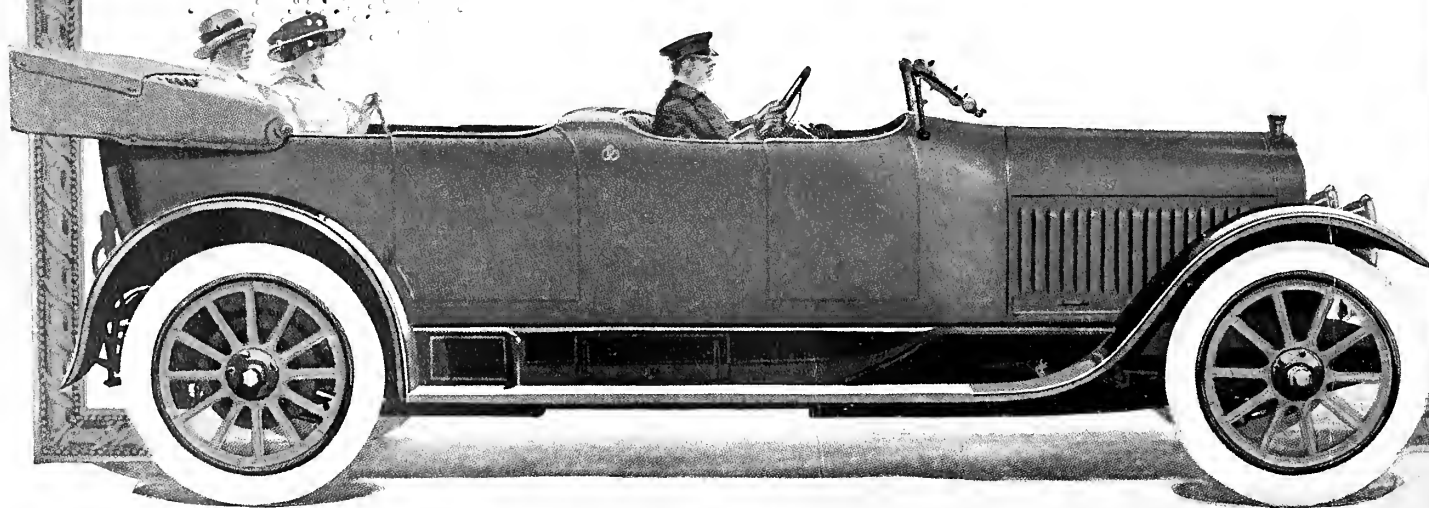
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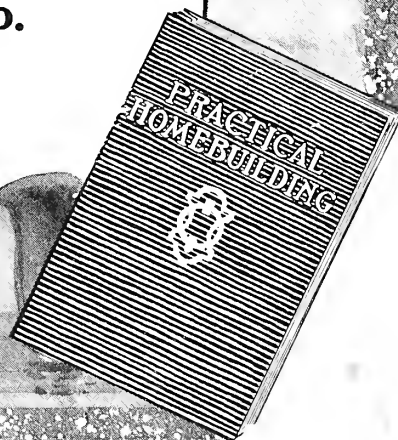
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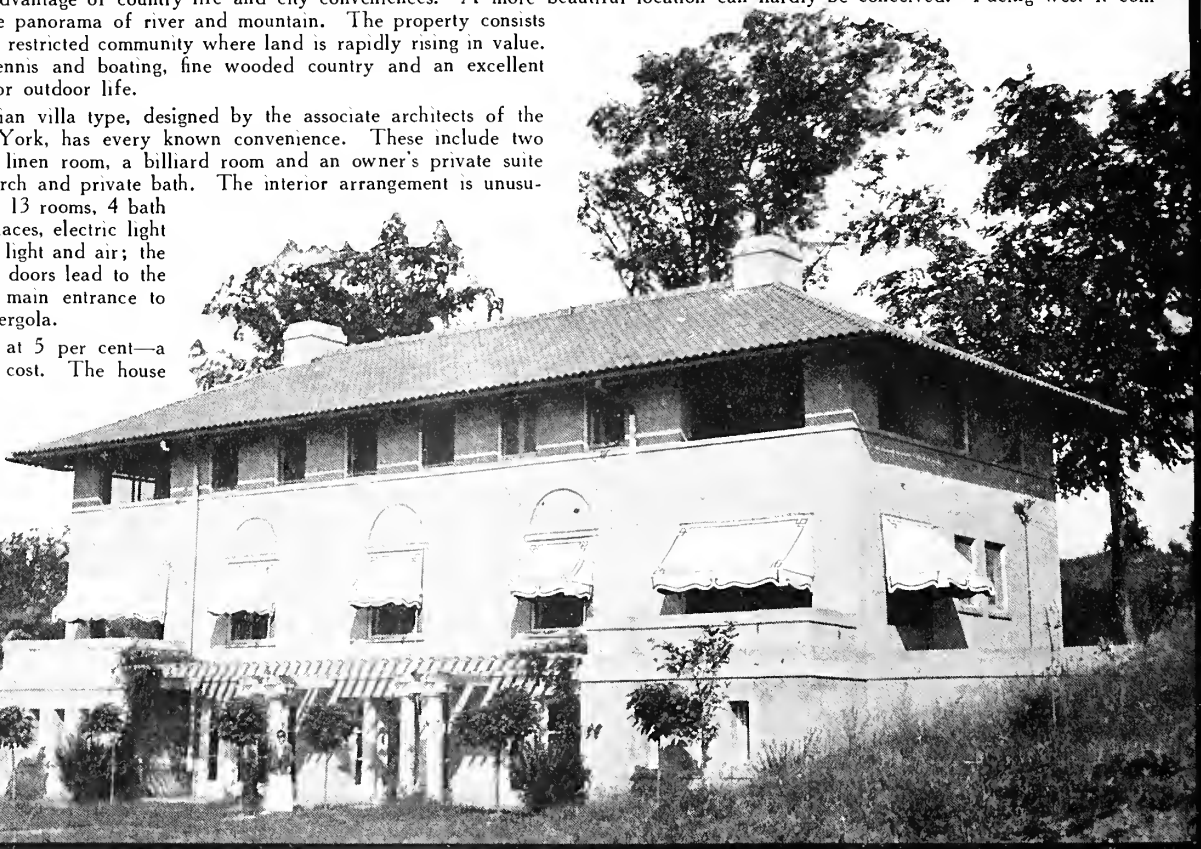
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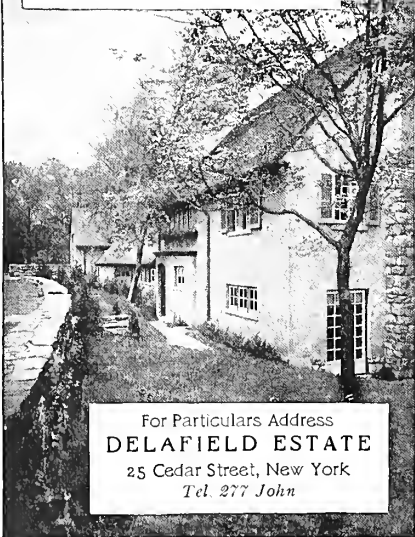
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Economy in Garden Space

WHETHER we are hobbyists or serious, matter-of-fact gardeners, we have learned that, if we are to get more than cost out of our gardens, it is unwise to grow any vegetable really unsuited to the location.

While we may succeed with the standard varieties, some of us have to leave out more exacting sorts because the garden soil is too dry or too wet or too light. The fact is, that, in some instances, a kind of garden annex in another place where a few rows of vegetables, unfavored in the main garden, may be grown is a necessity.

Still, one can greatly improve unfavorable soil conditions by using plenty of humus in the form of compost or of cover crops upon light, poor soil by occasionally giving a coat of lime to heavy, sour soil, or by spreading sand upon a clayey garden spot and working it through with the plow.

An economical garden scheme for a tract having definite portions of light and heavy soil, as well as moist spots, calls for a classification of vegetables according to their requirements.

The soil should be as fertile as good manuring can make it. The distinctions in soil as made in this classification relate to its natural composition as to the predominance of sand or clay and its moisture capacity, sandy soil being light and clayey soil heavy.

Class A—Light, rich soil (sandy):

Okra.
Asparagus.
Early varieties of sweet corn.
Sweet potatoes.
Endive or chicory.
Turnips.
Squash.
Beans—bush.
Muskmelon.
Watermelons.
Tomatoes.
Pole beans.
Celery.
Spinach.
Radish.
Eggplant.
Beets.
Peas.
Carrots.

Class B—Heavier soil (well-drained):

Irish potatoes.
Cabbage, brussels sprouts.
Kohl-rabi.
Rhubarb.
Bush beans.
Later plantings of peas.
Lettuce (cutter of).
Onions and leeks.

Class C—Moist soil (not wet nor clayey):

Cauliflower (cool, moist location).
Cucumber (warm, moist location).
Parsnip.
Pepper (warm, moist).
Cresses (cool, moist location).
Head lettuce (cool).

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Locker Room

As Keen as a Sand
Green

As Human as a
Caddie



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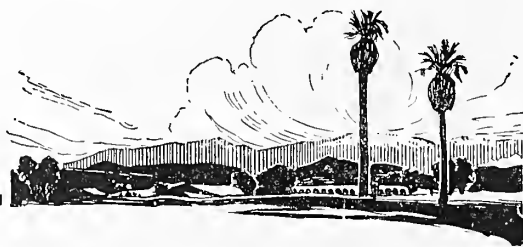
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A satisfactory rotation may yet be effected while keeping these vegetables within proper bounds. In following the above classification these rotations will prove satisfactory:

Tomatoes after pole beans, turnips, beets, melons or squash.

Eggplant after muskmelon, squash or beans.

Late squash may be grown after early turnips the same season, and late cabbage after early beans.

Later varieties of squash may be planted between the rows of asparagus about June 25th.

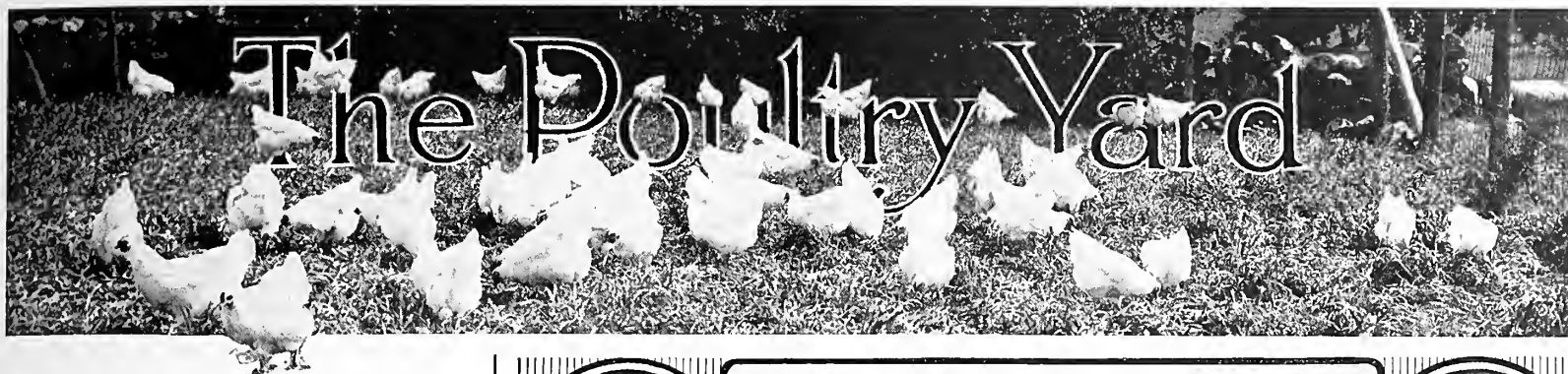
Late tomatoes and late peas and beans may also be planted between the asparagus rows toward the end of the cutting season with decided advantage to the asparagus.

Potatoes may be grown where peas and beans grew, but cabbage should not be grown after any member of its family if it can be avoided.

Where it is convenient to give pole beans a permanent trellis of post and wire they may be successfully grown year after year in the same spot. The posts are set six or eight feet apart in rows four feet apart, two wires being run from post to post near the top and bottom. Light twine looped from one wire to the other holds the running vines and is easily cut down at the end of each season. Early radishes, spinach, peas, lettuce, beets, etc., may be grown between the rows until the beans have climbed.

April Poultry Work

WHAT most disturbs the poultry-keeper's peace of mind at this time of year is the broody hen. Even among the Leghorns, Anconas and other supposedly non-sitting breeds, broody individuals are often to be found, and sometimes they are aggravatingly persistent. In former days it was considered the proper thing to duck the broody hen in a pail of cold water or to starve her or to treat her in some equally inhuman fashion, as though she were a criminal in feathers. We have learned better now. The poultryman's object is to get the hen into laying trim again as soon as possible, and therefore she should have extra good care. She should be given a crumbly mash every day, with the addition of a few table scraps, if any are available, together with cracked corn and plenty of water. She must be removed from the nest, however, and put where she cannot sit comfortably. A small pen or coop without nests and with no litter on the floor is a good place for the broody hens, and if an active cockerel can be put with them, they will soon be broken up. Many poultry houses are equipped with a coop having slatted sides and bottom and which



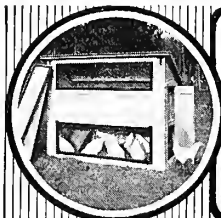
is fastened to the wall well above the floor, where the broody hens are imprisoned. Properly handled, these hens ought to be laying again in from ten to fifteen days. It is important, though, to take them from the nests as soon as they are found to be setting. The longer they set, the more stubborn they become.

It is a good thing to get the newly hatched chickens out on the ground as soon as possible. There is something about contact with Mother Earth which seems to be of the greatest benefit to all poultrykind.

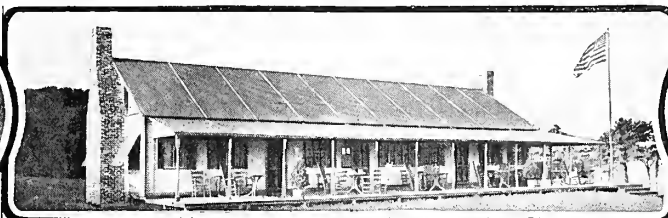
When the chicks first come from the brooders to view the world they are pretty likely to get lost, and if they remain away from the heat they become chilled, after which they take sudden leave of the world of which they have just caught a glimpse. There is no better plan than to make a little yard in the form of a half circle, using inch-mesh poultry netting. There are no corners in such a yard, of course, and the chicken that forgets the way back to the heat will simply follow along the wire until it presently finds itself under the hover again.

When the modern portable hovers are used it is rather desirable to make a little fence of boards or of canvas to break the draughts for the first week or two, as well as to confine the chickens. Special wire cages are made to fit over the hovers, and are not expensive, while they protect the chicks from rats, which do not even wait until the birds have reached the squab broiler stage of development before they dine on them. Every year thousands of chickens are carried away by rats, and when a new brooder house is built it pays to spend a little extra money to make it rat-proof by putting in concrete foundation walls which go two feet below the surface. When the animals are already on hand, the only satisfactory way to get rid of them seems to be by the use of one of the poisons sold for the purpose, and which can be given in a box with a small opening so placed that the fowls cannot reach the poisoned bait.

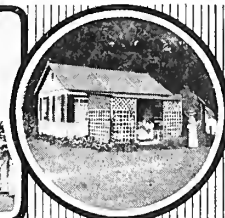
When poultry keeping is to be entered upon by the simple process of buying a few dozen day-old chicks, this is a good month to begin. Day-old chicks may be sent safely by express many hundred miles if properly ventilated boxes are used. It is well, however, to have the journey as short as possible and very important to



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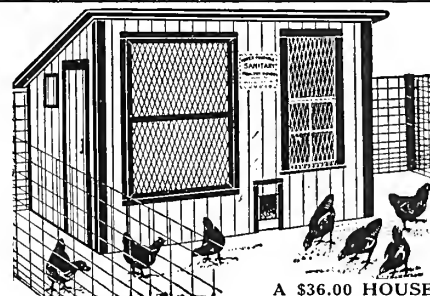


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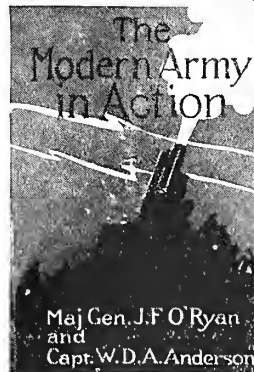
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buy from a man who has the reputation of keeping high-class stock. It is an unfortunate fact that many day-old chicks have very brief careers.

Another way to begin this month is to buy a hen with a brood of chickens. The plan of advertising hens with chicks has been tried for the past year or two in some sections and has met with a ready response. The hen will take care of the chickens until they are large enough to look out for themselves. Then she can be made the principal item in the composition of a palatable chicken pie.

It is important to keep the brood coops dry, which is sometimes a little difficult when April showers come in quick succession. Some of the commercial litters made of peat are exceedingly satisfactory in brooders of all kinds and serve equally well in brood coops, which they help to keep in a sanitary condition, even in damp weather.

Cleanliness must extend to the yards. If an attempt be made to bring up chickens on tainted ground the result is almost certain to be failure. In fact, that is the rock on which many poultry enterprise proudly launched and successfully navigated for a time has eventually split. Where only a few chickens are being reared it is not a difficult matter to keep them in roomy but portable yards and to move the chickens daily. Even when only a limited grass plot is available, it is possible to keep the grass from being killed out when it has a week or ten days in which to recuperate. This is really not the best plan, though, for growing chickens need fresh earth as well as grass. They need the earth to dig and dust in, but it should be where at least one crop has been grown since chickens were allowed on it before.

Chickens running with a hen are almost sure to have lice. There are several kinds of lice which play a part in making all poultry miserable, but the most disastrous to chickens is the big-head louse, which is best gotten rid of by means of a very little lard rubbed on the head. This, of course, is in addition to regular weekly applications of insect powder. And perhaps it should be said that the Persian insect powder commonly used should always be fresh. It may be purchased at any drug store and costs but little. Probably most of the prepared insect powders are just as good, but they are not always available.

Fireless brooders may be used satisfactorily at this season, as there is less danger now of the chicks becoming chilled. Of course, they require much less attention than heated brooders. The one point to remember is that the chickens provide their own heat and that there is no warmth in the brooder unless they are in it. For the first day or two the fireless brooder needs close watching, the chicks being repeatedly coaxed or driven to its shelter. So soon as the youngsters have learned their lesson, however, very little attention is required.

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It is with first-aid remedies, designed to save the victim's life by tiding him over that critical period from the time he crawls, whimpering, into the house until professional services can be obtained, that the following paragraphs have to deal.

Arsenic and strychnine are the poisons most commonly used by the dog-hater. Phosphorus is also to be considered, for it is the chief deadly ingredient in many rat poisons, and so can be easily obtained even by people of no standing in the community. Even when intended for its legitimate purpose—vermin destruction—it sometimes happens that a dog will get hold of it and suffer accordingly.

Considering arsenic poisoning first, the symptoms to be expected are heat and tenderness of the abdomen, quickly followed by frothy vomiting and thirst. The dog's breathing is heavy and labored, and in a little while he will have convulsions. The thing to do, as in all poison cases, is to get the stuff out of his stomach as soon as possible. For this, the best temporary remedy is an emetic of milk, magnesia and oil, or flour and water. It should be given in good quantity as soon as possible after the cause of the trouble is suspected. If the first dose does not have immediate effect, give another, for time is precious.

Strychnine symptoms are quite different from those of arsenic. The dog yelps and whines with pain, jerks his head, froths at the mouth, and, as the poison takes greater effect, his legs twitch curiously. These indications will be followed by arching of the back and occasional convulsions. Give him a powerful emetic and hope for the best until the doctor comes.

Phosphorus causes frequent vomiting and purging, heat and tenderness of the throat and stomach, and convulsions. Give an emetic and follow it with frequent doses of magnesia or chalk dissolved in water.

It must not be supposed that every case of poisoning can be treated successfully by the above methods. The remedies are efficacious as far as they go, and in the majority of cases they serve their purpose; but when the poison has had time thoroughly to work into the dog's system, it is a toss-up whether or not he can be saved. The veterinary, or, lacking one near by, a druggist, should be reached with all possible speed, for a few minutes' delay often means the difference between a live dog and a dead one.—R. S. Lemmon.



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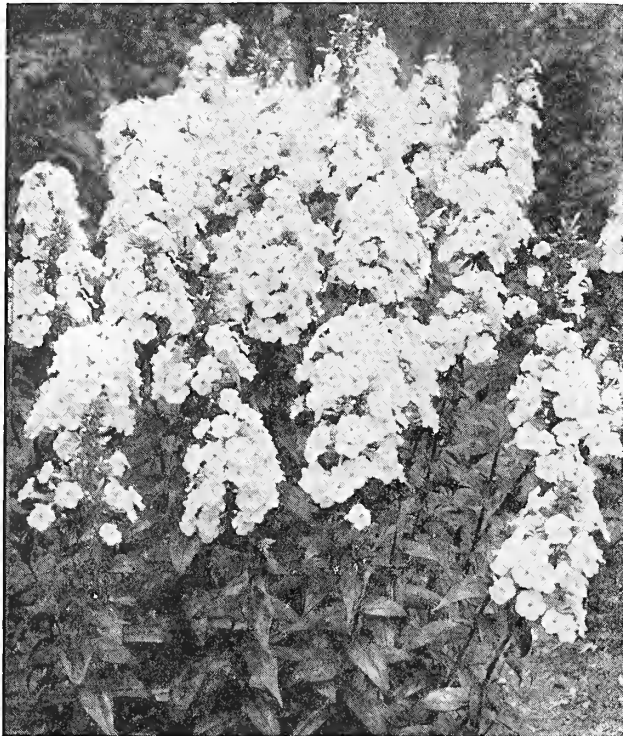
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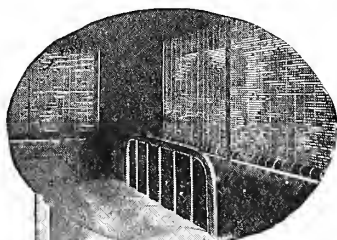
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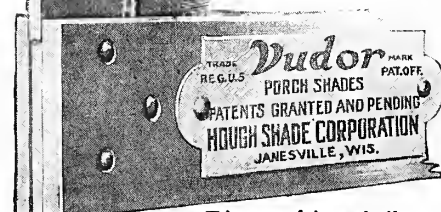
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Changes in grade are usually welcome factors in garden making, for terraces offer great variety in treatment, and each terrace, as shown by this picture of a New England garden, should have some individuality and distinctive interest. Prentice Sanger, landscape architect



By the back fence were clumps of iris and peonies, a jungle beloved of the cats—and of small children, too

In Grandmother's Garden

BEING THE LAND THAT MANY OF US CANNOT GO BACK TO SEE—THE LAND WHERE THE CHILDREN PLAYED THAT WE USED TO BE, WHERE GREW THE FLOWERS THAT HAVE A PLACE IN THE HEART

FANNY SAGE STONE

Photographs by R. L. Warner



JUST the sight of a sweet briar rose brought it all back to me. My thoughts had been busy with shopping lists and plans for the day, as I rode into the city on the elevated train. At one of the stations I glanced up to see a dear, little old lady taking a seat near me, and on her coat was pinned a sweet briar rose. She loved it. I knew from the way she wore it and the tender look she gave it occasionally, and when she took off her coat, how carefully she

folded it that the rose might have a safe place! Then I fell to wondering where the rose grew, and soon I forgot the little, old lady and her rose and I was a child again—happy and free in Grandmother's garden.

It was there where I first knew and loved the sweet briar rose: in Grandmother's garden, the place that was really paradise to us as children.

Fortunate, indeed, is the child who has such a start in life. For, ever after there comes to her a greater love and appreciation of nature and of all out-of-door things.

Every season was interesting in that old garden. Even at Christmas time one of the most fascinating spots was the one where we knelt and pushed away the snow to peep under the protecting branches and find the blossoms of the Christ-

mas rose. We loved these flowers that bloomed defiantly in the face of the frost king, and how like conquerors we felt as we carried them in from the ice and snow! Another joy was in finding the berries on a cold, winter's day, still clinging to the barberry bushes, the high-bush cranberries and the snow berries. No wonder the birds came often to the garden, even in winter, where they found such good things to eat.

When the March days came we watched for the first snow-drops. Brave little things! They pushed their way up through the frozen ground, each one covered with a little cap to protect it from the cold.

Then came the crocus blossoms, all in purple, white and gold; and soon, best of all, the lovely, blue scillas, with the real fragrance of spring, and the rock cress. Were ever bouquets prettier than those we made of these two flowers and took to school for our favorite teachers?

Grape hyacinths came next, and the dear little row of hepaticas that Grandmother had brought from the woods years ago sent up their sweet blossoms. They always nodded to us as we passed, and Grandmother had no rest after the first one blossomed, for then we felt the call of the woods and begged for the day when we could go and pick all we wished.

Spring was full of gladness in this garden, for there was always something coming into bloom, and we knew just where to look for the different things. Grandmother had taught us, and we grew to love the flowers almost as well as she did.

Sometimes we would go out with Grandmother in the early spring, and she would take a stick and poke carefully among the leaves to see if the different things had started to grow. Often we would find little buds just waiting for a warm day to help them burst into bloom, when they would come to us again with the same sweet fragrance and freshness.

"God does not send us strange flowers every year.

When the spring winds blow o'er the pleasant places,

The same dear things lift up the same fair faces.

The violet is here.

It all comes back; the odor, grace and hue,

Each sweet relation of its life repeated;

No blank is left, no looking for is cheated;

It is the thing we knew."

Down by the porch in the south sunshine grew the white violets. In April the ground was white with their blossoms and their fragrance greeted even the people who were passing on the street.

We were never so much interested in the front yard, where the more formal things grew, and Grandmother never encouraged our becoming intimate with that part of the garden. We peeped through the lattice at the snowball and barberry bushes, the bleeding heart and the crown imperial lily. Sometimes we did beg permission to step in through the lattice gate to pick a few of these forbidden flowers that would help us in some of our games or in our house-



The playhouse was out under the apple trees. Never was there more wonderful housekeeping nor more varied and original meals. The garden furnished everything, even to clothing and adornment

keeping plans. We found the most fascinating little rabbits in the blossoms of the bleeding heart when it was pulled apart, and the berries we just had to have for our salad, when we kept house under the apple trees. We had our favorite flowers, of course, and most of these grew in our yard—the one behind the lattice fence. Yes, the sweet briar rose grew there, and Grandmother loved it dearly. I suppose that was why it grew near the window where she always sat, with her sewing. The little, south wind bore its fragrance in to her, and perhaps a message from Grandfather, for he planted the bush there and was “partial to it,” he used to say. On Sundays, when he went down the side steps on his way to church, he always stopped to pick a sprig of the sweet briar to take with him. As he fingered the leaves in church, I used to wonder if he were saying his prayers with them, as Martha did with the beads on her rosary.

Such beautiful things grew in the “back yard”! There were larkspurs in pink and lavender, the little, old-fashioned annual larkspur that to my mind is still more desirable than the tall, cultivated kinds. There were rows of stately hollyhocks, mullein pinks with flowers of such wonderful color; the Star of Bethlehem or Johnny-go-to-bed, as we sometimes called it; Canterbury bells and foxgloves, the dear, little Johnny-jump-ups, or ladies’ delight, and the lilacs.

A great mountain ash tree grew here. Its berries strung together made lovely necklaces for us. The birds loved this tree, especially the cedar wax wings, tidy, polite, little things. Then, too, there were sunflowers, where the goldfinches feasted in the fall. A beautiful trumpet vine grew up over the side of the house. We often watched the humming birds as they came to the red trumpets on the vine and ate their fill, and we wondered, as the cuckoos flew to the bitternut tree, how they knew that the tent caterpillars were there doing harm.

A great syringa bush grew higher than the second-story windows of

the house. This bush was a home for birds through all seasons. Grandmother used to say that most of the birds in migration time flew to its protecting branches, registered and rested and then went on their pilgrimages. The wood thrush and cuckoo would come to the bush and rest for hours, evidently tired and exhausted after long flights.

Two little, round beds in Grandmother’s garden were our especial delight. They were made originally for Grandmother’s own girls, but were claimed by us as we grew up. We planted and cared for them, and wonderful indeed were

the results. Occasionally Grandmother would take a hand in managing them. I remember a beautiful border of June pinks that grew around one bed. The other had a row of love-in-the-mist. Grandmother called it Lady-in-green. Sweet William and wall flowers grew near; columbine and veronica; and, peeping through the fence, were the sturdy flowers of the bouncing Bet.

Around the well grew the pretty, little, low flower-de-luce, the yellow buttons and the striped grass. I intuitively put my hands to my ears when I see the striped grass. Never shall I forget the dreadful squeaks and shrieks that were made with it.

We felt that the bitternut tree really belonged to us, for we spent many, many happy hours in its shade, and its fruit was a never-ending source of pleasure. I wonder if little girls nowadays know the fascination and charm of the pig-nut doll! When the nut was shelled the little, pointed end made such a lovely nose, and, with a pencil or nail, we easily made holes or marks for eyes and mouth. Then, with two sticks or matches for legs that were thrust into the head of the unfortunate doll, we had a wonderful result. Marvelous dresses were made and caps and bonnets such as never were seen or heard of. As I think of it now, it seems as if all of our good times were in this garden, and everything that grew or blossomed seemed to lend itself to
(Continued on page 301)



One of the garden paths led to the street; old-fashioned flowers fringed it; and there was a curve midway down that almost hid the gate from view



Every season was interesting in that old garden. Even in winter would be found the Christmas rose down by the shelter of the gate

The Right Way to Grow Seed

CONDITIONS THAT ENHANCE GERMINATION—BAKING THE SOIL—THE DEPTH TO SOW—NURSING THE YOUNG AND DELICATE PLANTS—MODERN MECHANICS OF TRANSPLANTING

S. LEONARD BASTIN

MUCH of the success of the garden will depend upon giving the plant a good start in life. On this account the question of seed sowing is one which should receive a good deal more attention than is usually given. It will well repay any grower to study the conditions under which seeds most readily germinate and develop, and then to do his utmost to provide favorable surroundings.

There is, of course, a right and a wrong season for the sowing of every kind of seed, and such information is usually to be found on the packets. But of almost equal importance is the choosing of the right kind of weather. Dry weather, such as sooner or later comes with every spring, should be chosen for the business. No time will be gained and, in many cases, much will be lost by scattering the seeds when the soil is heavy with damp. Germination will be rapid in a light and comparatively dry soil, but it will be slow and may not take place at all on water-logged ground. Anything, like the addition of sand, which can be done to lighten the surface soil of the border will be very helpful in enabling a free growth of the little plants. Remember that the more freely the little roots can push about, the better chance will the plants have of establishing themselves. When sowing seed indoors in pots, pans or boxes, it is possible to prepare the soil very perfectly. Whatever is used as a base, a liberal allowance of sand is desirable, and the mixture should be passed through a fine sieve so that all lumps are made



Small seedlings are washed out of the soil if watered in the ordinary way. Try standing the pot in a bowl of water

to disappear. A very important precaution is the sterilizing of the soil before use. Ordinary soil always contains the spores of mould, and may very well have a quantity of slugs' eggs as well. Under the shelter of a glass house these pests rapidly develop, and will play havoc with the baby plants. The danger may be prevented either by baking the soil in an iron tray over a furnace or pouring boiling water over it. In any case, the mould must be moist when it is used. Of course, in the case of pots and pans it is most important that the drainage should be in perfect order. Some gardeners half fill their pots with broken crocks before putting in the soil.

Nearly all gardeners sow their seeds too thickly. An idea seems to be abroad that it is necessary to sow a great quantity of seed, on the supposition that a large number will not germinate at all. This might have been the case a generation ago, when there was a great deal of bad, and even dead, seed about. Nowadays the merchants of high standing all sell seeds which show a considerable measure of vitality; indeed, every effort is made to ensure all the seeds being alive. Thus, to sow thickly is to secure a cluster of crowded plants which, from birth, jostle one

another in an endeavor to get enough light. These specimens will always be weaklings. Thin sowing, on the other hand, will result in strong plants which can be relied upon to yield the very best results. Do not sow direct from the packet. Pour a little quantity of seed, if it is



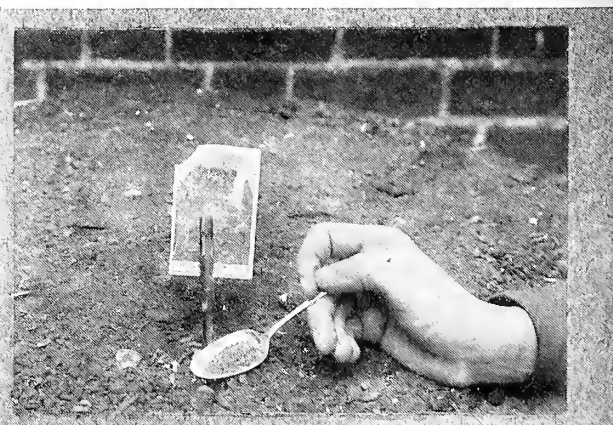
The seeds in flats should be properly labeled and arranged in an orderly fashion. Keeping the kinds together simplifies work



Large seeds are best planted singly. They can be pushed into place with stick or lead-pencil



Loss of moisture can be checked by covering seedlings with a glass



Much of the success of raising plants from seed, especially annuals, depends upon thin sowing. Use a spoon as shown

fairly small, into a spoon and then gently shake over the soil. The large seeds, which can be picked up singly, should always be sown one at a time. Use a stick to push them down into the soil. The distance apart depends upon the size of the plants, but in any case you will be surprised at the sturdy specimens which come up after single planting.

The depth of sowing is a matter upon which there is a good deal of ignorance. Never forget that the seed is a living thing, and that if it is going to grow it must have air, as well as warmth and moisture. Thus, to bury a seed deeply is to suffocate it; countless millions of prospective plants are lost in this way. On the whole, a very good rule to observe is that seeds should be covered with soil to about their own depth. This will mean that very tiny seeds can be simply scattered on the prepared surface, and then gently raked in with a handfork. In such cases it is an excellent plan to cover the bed with a sheet of newspaper until the actual germination has taken place. This plan will always be followed with great advantage in the case of minute seeds, whether indoors or out. Quite apart from the protection, it will assist a speedy germination, for the awakening of the seed always goes forward more rapidly in the dark than in the full light. Out-of-doors sheets of glass propped up on stakes may be employed to protect seeds after sowing; bell glasses or cloches will do as well. These may be helpful later on when the little plants appear, should the weather be fickle. As far as the seed is concerned, the shelter will keep away rain or hailstorms which



The plants on the left were sown thin; those on the right, thick; showing graphically the results of the right and wrong way to grow seed



Plenty of light is necessary for seedlings, although allowance should be made for shading from bright sunshine indoors



Instead of soaking the hard seeds, such as canna or Indian shot, a quicker way is to file carefully through the outer skin

might cut up the ground. Where any close shade, such as a bell glass, is used, it is important to remember that germinating seeds must have air, and the confinement must not be too rigid.

In the case of seeds of moderate or large size, germination will be very much hastened if these are soaked for twenty-four hours in water before sowing. This is sometimes a useful plan in a backward season when outdoor sowing has been delayed owing to continued wet weather. At the first sign of a dry spell the seeds are soaked, and then popped into the soil, when, if the conditions are at all genial, they will come up in an amazingly short time. Any seeds which are big enough to handle and seem to be very hard may always be soaked with advantage. Some kinds, such as those of the canna or Indian Shot, rarely germinate satisfactorily unless they are soaked for days. A quicker way is to get a file and carefully cut through the outer skin. This will ensure a speedy growth. Certain kinds of seeds naturally take a long while to come up; in other cases some of the seeds germinate, and some of the same sort sown at exactly the same time lag behind. This uneven germination is a feature of some plants, the most notable of which are certain kinds of primula. The writer remembers sowing a pan of the Chinese primula: about half the seeds came up within quite a short time, while the others spread their germination over two months. No one seems to know why this is the case, but the fact is mentioned to warn the grower against concluding that a lot of the seeds
(Continued on page 291)



Attack the rosebugs daily with arsenate of lead

THE GARDEN ENEMIES TO LOOK OUT FOR—SPRAYING FROM APRIL ON —FORMULAS FOR SPRAYING MIXTURES — THE MACHINES TO USE

GRACE TABOR

Photographs by the E. C. Brown Company

TWO months ago, in these pages, was considered the subject of winter spraying—taking the offensive against the outposts of the garden enemies. San José scale and the oyster scale were described then, and the work was mainly restricted to the spraying of fruit trees.

Arriving well into April, things begin to be complicated, and the spraying table must be consulted from now on. Against the apple, for instance, there is a second race of invaders due along with the hatching of the new San José scales, about the time the young leaves are unfolding. This is the codling moth—the common, unpleasant thing familiar to everybody in the “wormy” apple. Pears, quinces, prunes, plums, peaches and cherries are also its victims, but it is distinctly an apple feeder, if apples are plentiful.

In a sober and inconspicuous way this moth is really a very beautiful little creature. The spread of its wings is not more than three-quarters of an inch—usually less—and it has two pairs of wings. The forward pair look like brownish-gray watered silk, with a spot at their tips of brown inlaid with rich bronze and gold; the rear pair are sober grayish-brown, not ornamented at all, but very soft and delicate in texture and appearance.

About a week after the apple trees have opened their buds these moths emerge from the pupæ—which earlier in the spring have been developed from the larvæ, in which state the insects have passed the winter, wrapped in their silken cocoons and hidden in cracks and holes in the trees or in houses where apples have been stored. A few days after emergence the gray moths lay their eggs—on the leaves in the first generation or brood; on the fruit usually, in the second. In about eleven days the eggs are incubated—the time varying with the tempera-

ture—and the young larvæ or “worms” of the new generation come forth, seeking at once to find a home for themselves inside the fruit just setting. Sometimes these small worms eat off the leaves before reaching the fruit, but they lose no time in making straight for the heart of the apple or pear, or whatever it may be, through the calyx end or through some irregularity in the surface. A smooth surface they cannot seem to penetrate. Naturally, once they have gone to the inside of the fruit, no poison can reach them; so it is in this early period, just after hatching, that spraying for them must be done.

Along with the codling moth comes the curculio—a snout beetle—that it was thought at one time could only be fought by jarring from the trees. Spraying with the same sort of poison used against the codling moth, however, is generally favored now.

The injury done by the curculio is also effected by the worm form of the insect, but instead of this worm being hatched outside of the fruit and entering it subsequently, the egg is laid just under the skin of the newly formed plum or peach or apple, and the insect is already safe from destruction when it hatches. This complicates the work of the gardener; for, once hatched, it proceeds to eat and grow, all under cover, until it is a great, fat, whitish worm at the very heart of the fruit. The first broods come up from their winter quarters under rubbish or leaves or the dry grass of old, sod-covered orchards about the time the trees bloom; full-grown adults, ready to eat and mate and lay immediately. Direct poison applied to the tender buds and leaves and flowers on which they appease their spring appetite will destroy many of them. Some time in April the first application of Arsenate of Lead for these two enemies is made. Just when this is done depends entirely upon



The knapsack sprayer, with an extension nozzle, is best for vines, necessitating the work of only one man

local conditions of growth; so the gardener must simply watch his own trees, and as soon as the leaves are unfolded, get to work. It may not be until May; it may be early in April.

Waiting for the blossoms to open and mature and fall, he must note the date of the latter, and three days later make a second application. A third treatment to catch the larva of the codling moth as it is entering the newly set fruits at their bud end may be necessary when the fruit is set and careful observation reveals the presence of any more of the small worms hanging around, waiting for their chance to move in. This is usually two weeks to a month following the second use of Arsenate.

Later in the summer comes a second brood of the codling moth, resulting in much greater damage, if left to its natural devices, than the first. The spraying table gives the dates for getting after this. As the worms of this generation enter the fruits usually where they touch and rub together, impairing the skin, proper thinning of the fruit greatly



For the small orchard of dwarf fruit trees a portable machine handled by two men will be sufficient. Here again the extension nozzle is necessary

aids in the work against them.

Fungi are contested with the lime-sulphur spray of early February, which cannot be used after vegetation is in leaf—nor even after the sap has begun to run, preparatory to the spring awakening. But one's troubles are by no means at an end with this particularly insidious form of pest when the February dosage is administered; for increasing warmth and the rains of summer liberate continually and favor the germination of the infinitesimal spores by which all fungous diseases spread.

As a matter of fact, these diseases are more to be dreaded in a way than insects, for they are practically incurable, and their presence is never suspected until they have established themselves. The spores, which are quite as invisible as germs, enter the leaf or plant tissue and are there protected from anything which may be applied, so that treatment must be made literally before the trouble exists.

In addition to spraying with a direct poison for codling moth and curculio late
(Continued on page 294)

GENERAL SPRAYING TABLE

NOTE.—There are hordes of insects not specifically mentioned here, but these are the commonest; and the spraying done against them and as a preventive measure against fungi will usually accomplish all that the well cultivated and tended garden needs.

TIME TO SPRAY	PEST TO BE DESTROYED	PLANTS ATTACKED	REMEDY TO BE USED
On or before Feb. 1, while vegetation is still absolutely dormant.	San Jose scale, full grown, fixed and armored.	All woody vegetation, both ornamental and useful.	Lime-sulphur Wash.
As soon as young leaves are opened.	San Jose scale, newly hatched, moving and unarmored. Old brood of Curculio. Possible early Codling Moth. Fungi.	All woody vegetation. All stone fruits. All pome fruits. All vegetation liable to attack.	Kerosene-soap emulsion ("a" and "b," as per note below.) Arsenate of Lead. Arsenate of Lead (Mix and use as one spray always) Bordeaux
Three days after flower petals fall.	Codling Moth. Fungi.	All pome fruits. All vegetation generally.	Arsenate of Lead (Mix and use as one spray always) Bordeaux
One to three weeks later; watch for tiny worms on leaves or newly formed fruits. May, in addition to above, if these insects appear. Weekly throughout May.	Codling Moth. Aphids. Slugworm. Fungi.	All pome fruits. All kinds of vegetation. Pears, cherries, roses. All vegetation, leaves being now full.	Arsenate of Lead. Soapsuds. Soapsuds. Bordeaux, except on roses. Potassium sulphide on roses.
June. Semi-weekly. Weekly.	Rose bugs or beetles. Codling Moth; Curculio. Aphids; Slugworm. Fungi.	Roses, grapes, shrubbery and flowers Tree fruits generally General; pears, cherries, roses. Small fruits, vegetables, flowers.	Arsenate of Lead; hand picking. Arsenate of Lead. Soapsuds. Bordeaux, except on roses. Potassium sulphide on roses.
July, around the 25th, as observation shows the larva on maturing fruits. Semi-weekly. Weekly.	Codling Moth, second brood. Aphids. Fungi.	All pome fruits. All kinds of vegetation. Small fruits, etc., as above.	Arsenate of Lead. Soapsuds. Bordeaux. Potassium sulphide on roses.
August. Semi-weekly. Weekly.	Codling Moth, second brood. Aphids. Fungi.	All pome fruits Vegetation generally. Small fruits, etc., as above.	Arsenate of Lead. Soapsuds. Bordeaux. Potassium s. on roses.
September, semi-weekly if necessary. Weekly.	Aphids. Fungi.	Vegetation generally. Small fruits, etc	Soapsuds. Bordeaux. Potassium s. on roses.

* Solution "a" to be used on apple and pear; solution "b," on all other fruits and ornamental trees and shrubs.

My Suburban Garden

PLANTING FOR WORK WITH THE WHEEL-HOE—THE PROBLEM OF TOMATO TRELLISES—WEEDING VERSUS CALISTHENICS—A SECOND-YEAR SUCCESS

WARREN H. MILLER

LATE in February I sneaked out into the country, attended a trap-shooting contest and planted lettuce, radishes, pansies, cosmos, hollyhocks, peppers and cabbages in the hotframe. When we opened up the house early in March they were up and getting along finely. Often, during the city visit, I had given an evening to the planning of this year's garden, and the seeds for it were already ordered. It was a combination of the wheel-hoe system and the old-fashioned bed system. I had not yet learned to appreciate the wheel-hoe as a weeder, and for a busy commuter weeds are the great problem—after the soil is in shape. Not having a gardener to fight weeds, nor much time to do it yourself, some method of destroying them wholesale must be provided for, or the weeds will not leave you a single vegetable that you can call your own!

The wheel-hoe is the only tool I know of that will take out weeds wholesale, but the rows of plants must be spaced to leave room for it to work in—at least 18" apart. In other words, instead of a system of beds and paths, there is a sort of path between each row of vegetables spaced 18", instead of 9" or 12", which is more wasteful of land than the old-fashioned bed system. Now, a commuter's garden is usually short on land, but unless it is going to be long on weeds also, the wheel-hoe system is the only sensible plan. But there are certain vegetables which can be sown so thick and grow so fast that the weeds never get a look-in, notably lettuce, radishes, carrots, beets and turnips, so I decided to experiment a little with beds, leaving the main garden on the wheel-hoe system.

On each side of the central garden path I laid out beds 4 x 12 feet in area, one radish, one lettuce, one carrot, and one salsify. They all succeeded except the last, which, being a narrow-bladed plant, soon got full of weeds. For the same reason, the beds of leeks, onions and onion sets did not yield anything, for the rows of sets were too close for the wheel-hoe, and the close-sown beds of leeks and little onions for table garnish got full of weeds before those little plants ever amounted to anything. The close-sown carrot bed was a wonder for yielding basketfuls of those little, tender carrots which the French use so much in soups and stews. For full-grown carrots for winter storage, such a bed will not do, as they require about 4" in the rows and periodical visits of the wheel-hoe to discourage the weeds.

The twenty tomato vines in staggered rows of ten, three feet



The garden in February of the second year, showing young peach and cherries planted from the nursery the previous October



Early Spring: note the young trees shown above and the whole east garden in strawberries—400 plants in a plot 30 feet square, providing a family of six with enough to eat and preserve

in the row, were well placed. These vines should always be set out in a group and in some regular formation that can be reached by a trellis system, never scattered about isolated locations unless you want to tend each one like a baby. Set them out about the fifteenth of May, never earlier, as

they are very sensitive to frost, and a week later hoe up a hill around each high enough to reach the first pair of leaf stems. The stalk so covered will at once put out a quantity of little extra roots, and the plant will shoot up husky and stocky. But by July 1st you will have to build a trellis for them, for the heavy, green tomatoes will quickly break down the branches. The trellis should be of 1¼" x 1¼" yellow pine, two stringers high, run on posts eight feet apart along each side of a row of plants, with cross braces at each plant. Barrel-hoops and four stakes at each plant are good—if you have the hoops! I had not, nor any time to hunt some up, but I made that trellis in a single Saturday afternoon. The man who is not adept at making such a trellis can buy individual supports made of heavy wire built along the line of hoops, and these will give complete satisfaction and last forever.

The twenty tomato vines gave tomatoes enough for family use until late in October, but not enough for preserving and pickles, so the next year thirty-two plants were set out on the opposite



The garden in July showing the dahlia and phlox hedge between the fruit trees

side of the main garden path, the increase in the strawberries making it necessary to give up the whole East Garden to them.

By the middle of March the first peas were in, the early potatoes, the outside radishes, lettuce and spinach. The first two (American Early Round Top and Mignonette) were sown on top of two beds in the East Garden and pressed into the soil with the back of a rake. From that time on Spring came with a rush, and the garden likewise. Everything budded and everything lived and thrived. I put in nine rhubarb plants in some rich soil in front of the hotframe and built a lima bean yard of twelve hills behind it (not planted, of course, until the middle of May).

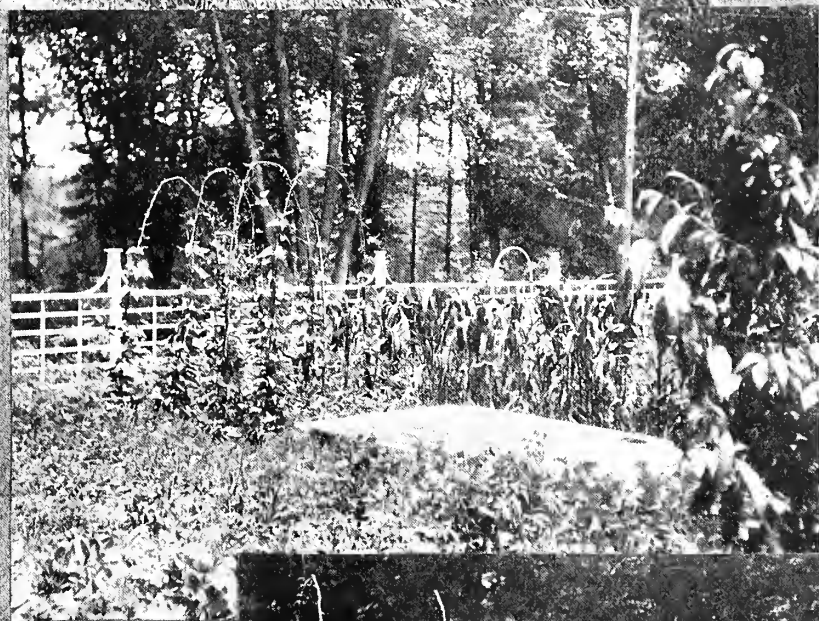
By April 1st all the peaches had little, pink flowers, quite a display for their first year. None of them set fruit or would have been allowed to. The quince was covered with pale pink flowers, looking like wild roses. It set one little quince, which the tree refused to feed, as it needed all its vitality in growing, and it soon dropped off. The pears and apples contented themselves with a heavy growth of leaves and wood; the Baldwin, which survived from the first year, growing to fourteen feet in height and two inches in trunk diameter. During April I was busy laying out and planting all the new beds. Onions, onion sets, carrots, oyster plant, second row of peas, turnips, beets and second spinach went in, row by row, as fast as the

wheel-hoe could prepare the ground.

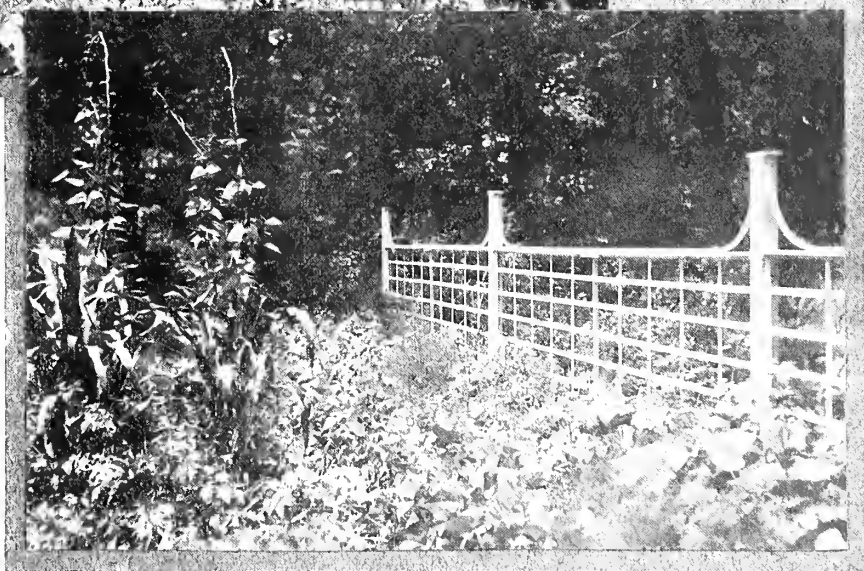
The April rains were even more continuous than the year before, but this time the garden was different. No longer were there muddy pools distributed about the garden after a heavy rain, though the surrounding woods were full of them. Raising the surface nearly a foot above the water table, as determined by the subsoil drains, had taken care of all that; the soil held no more than it would naturally, acting as a capillary sponge in dry weather, and later in the dry season my high-water table showed its advantages in the luxuriant growth of

the plants when most neighboring gardens were drying up and needing a hose on them. My soil and drainage problems were over: it remained to be seen whether ten to four o'clock direct sunlight would be enough.

May was upon us before I actually realized



The first bean arches, later to become a bower



Along the rear-garden fence was planted a row of currants, with a rose at each post. An asparagus bed was put between it and the main traverse path

it, and all the tender vegetables had to go in without delay. On May 1st the corn went in, a shovelful of manure to each hill, Early Metropolitan, Country Gentleman and Golden Bantam being the sorts selected. A few days later the first three rows (75 feet) of string beans went in, and on May 7th I set out the tomato plants. Get a dozen little plants seeded in a grape basket, 25 cents a basket, and transplant direct to the hills, taking out with a narrow trowel with the earth still caked about the roots. Twenty of these filled the allotted tomato space, and the other four (from two baskets) I found space for in the rear border, where they grew and luxuriated and gave endless trouble, falling over on currants and asparagus plants. May 10th I planted the lima beans, with a shovelful of manure in each hill for good measure. They should be planted eight to a hill, eyes down. I used pole limas, because the yield is very much greater per foot of ground than with bush limas, and poles were easy to get in the surrounding forest. I left the saplings

full length and bent their tops over, lashing them together to make rustic arches. These bean arches were soon covered with luxuriant vines, and formed a veritable bower of beans, with the big pods pendant inside the roof of the bower. Picking them in midsummer was a most Arcadian occupation, sitting in the shade, forsooth, on a low stepladder, with the market basket on your arm and ready scissors to snip off the abundant crop withal! By the middle of May I had the eggplants set out, a dozen little, potted seedlings bought at the seedman's (36 cents). They need the richest kind of soil, so I chose the site of one of the former manure piles, and set them out $2\frac{1}{2}$ feet apart, $2\frac{1}{2}$ feet in the row. They came up like balloons, and we had trouble enough in September trying to eat all the big, purple eggplant fruits as fast as they got ripe.

The hotbed population was now clamoring to be set out, so, "partner," who presides over our flowers and shrubbery, took her pansies, cosmos and hollyhocks away, and I set out 72 young lettuce plants for heading. To get crisp, tender lettuce you want a rich, mellow soil, for slow-growing lettuce is *always* tough, so I gave it a bed alongside the eggplant, where the proportion of manure to soil was very great.

It was now time for second sowings of stringless beans, third of peas and radishes, and we were already having our first radishes and lettuce. The weeds also began to be noticeable, so I manned the wheel-hoe, and in half an hour had weeded that whole garden, all but the beds, which took an hour each. All these hours (I

might add in parentheses) were snatched here and there; mornings, evenings and Saturdays, before and after business hours. They represented my physical exercise, my concession to the needs of the Unexercised Middle Third, which too often among us Americans degenerates into an unearned increment around the waist line! So long as it isn't Undeserved Excruciation of the Backbone, I have no objection to gardening as exercise, and the wheel-hoe has emancipated us from those sore and aching backbones which always overtook the Man with the Hoe in the old-style weeding days. You put on one or both of the hoes and walk

up and down the rows of vegetables, shoving the wheel-hoe ahead of you in a series of short pushes. Good for chest and arm muscle development. The keen, little hoe scrapes along, half an inch below the surface, cutting the root of every weed in its path. Its curved, inner face just grazes the line of vegetables, and a cast-iron pointer going on before lifts the vegetable leaves out of the way of the wheel. If your row was not planted to a line (by eye-guess, let us say), and is seeded crookedly, woe will be yours, for the wheel-hoe is no respecter of aristocratic vegetables, and cuts off plants and tares alike. If sown to a garden line, or, better

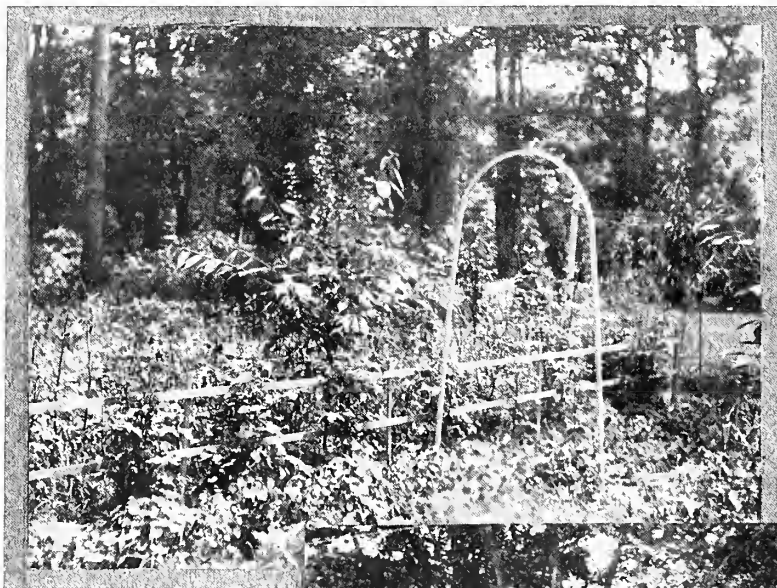
still, by the seeding attachment of the wheel-hoe (if you can afford it, get one: it saves many a weary back), you will shear a straight line, passing within an inch of the vegetable stems, and you will have hardly a weed to pull out between the plants where the wheel-hoe cannot reach.

The strawberry bed now began to attract attention for miles around. It was not only a mass of big, dark-green leaves, but a

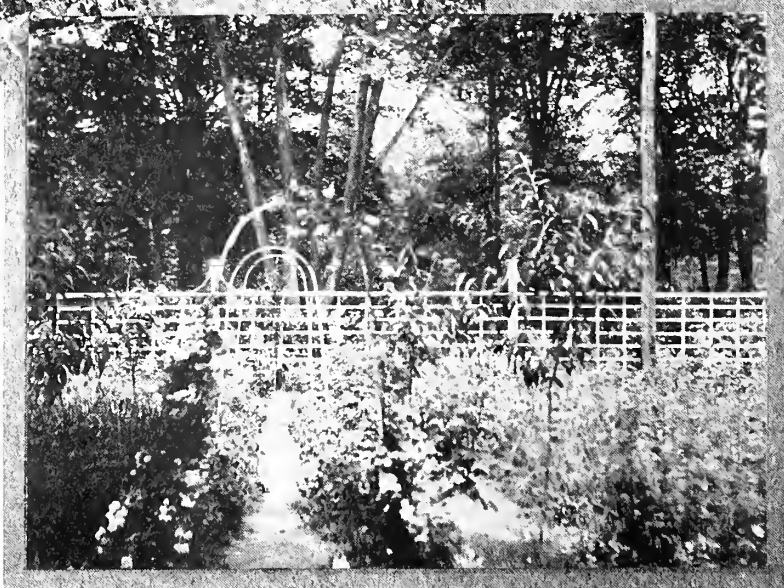
veritable snow-bank of the white and yellow flowers. Our beets, spinach and turnips, which were sown very heavily, required immediate thinning, and by early June we began eating a supply of fresh "greens" from these thinnings that never seemed to give out. One day it would be beet tops, the next young spinach, the next little, fresh turnips, creamed. Counting in radishes and strawberries for breakfast, a head of lettuce a day, and a dish of greens and peas for dinner, the June yield of the garden figured at about 70 cents a day, which is \$21.00 in a month, or \$126 in six months, in return for a few loads of manure and some spare time—this for the benefit of that wisacre who insists that gardening never pays in cold dollars and cents, even while he admits that the garden things are very nice and fresh, and all that. It does pay, at the prevailing cost of high living.

July saw the stringless beans, early turnips and second peas

(Continued on page 276)



An inexpensive and easily made trellis for tomato plants



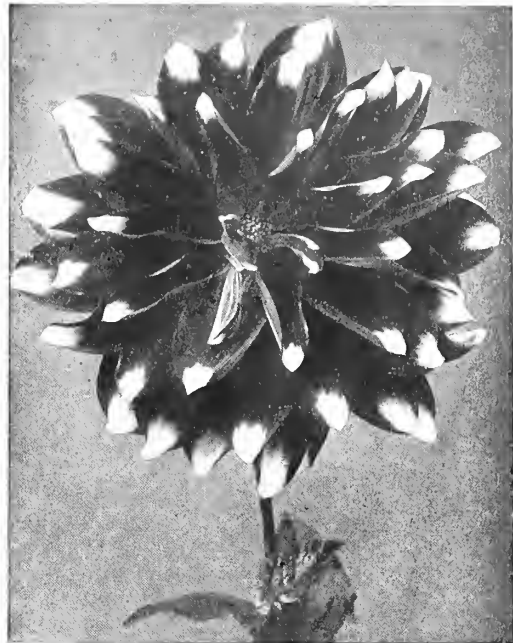
The Dorothy Perkins roses were trained up hair-pin arches over the main garden path, making a beautiful ornamentation



The cactus dahlia has long rays, not cupped, but sometimes with recurved margins



Merry Widow, a brilliant scarlet single, with a very desirable velvety texture of petals



A modern show dahlia, Beauty of Kent, two or more colors, striped with light edges

Dahlia—The Flower that Came Back

ITS CHECKERED CAREER—METHODS OF PROPAGATION—WHERE TO PLANT IN THE GARDEN—TILLAGE AND WATERING—WINTER CARE OF ROOTS

STEPHEN EDSALL

IF you doubt that there are fads in flowers, follow the course of the wavering popularity to which the dahlia has been subjected. Once an old favorite, it fell into disfavor for a few years because of its formal and artificial-looking flowers—round and hard and stiff as a ball. It was relegated to the company of those that are considered as having a place only in the rural districts, where its popularity would seem never to have waned. Since the coming of the loose-flowered forms—the cactus and semi-cactus types, which tend toward free, fluffy chrysanthemum-like flowers—it has gained front rank in popularity once more, coming just in advance of the chrysanthemum. And there is additional reason for this return to popularity, for few cultivated plants have such a wide range of color; few are more enlivening to the garden ensemble when placed in the proper positions and planted in the proper proportions.

Though the amateur gardener may not be able to avail himself of all the methods of dahlia propagation, it is wise for him to have a speaking acquaintance with the four processes: By cut-

ting, which is an important commercial method; by division of roots, the best plan for amateurs; by grafting, which perpetuates the rare kinds; and by seeds, to produce new varieties.

The single varieties may be grown from seed, but the double sorts should be grown from cuttings of young stems or from division of the roots. If cuttings are to be made it will be necessary to start the roots early in either a hotbed or the house. When the growth has reached four or five inches they may be cut from the plant and rooted in sand, but just below the joint, as a cutting made between two joints will not form tubers. The most rapid method of propagation of named varieties is to grow in this way from cuttings.

In growing the plants from roots it is best to place the whole root in gentle heat and cover slightly. When the young growth has started, the roots may be taken up, divided, and planted three to four feet apart. This plan will assure a plant from each piece of root, whereas if the roots are divided while dormant there is danger in not having a bud at the end of each piece, in

(Continued on page 298)



The Queen Queen, a seedling dahlia, exhibiting great variety in form and color, and easily a favorite for the fall

Your Saturday Afternoon Garden



The egg-plant needs two transplantings and does not have to be set out until the tomatoes are in the ground



Tomatoes will do well in almost any soil. If you would have them without blemish, support them above the ground

THE FOUR MAJOR OPERATIONS OF THE MONTH—PREPARING THE SEED BED—SOWING SEED, TRANSPLANTING, MAKING THE SEED BORDER

D. R. EDSON

THERE is a world of difference between *making* a garden and "doing some gardening." In the former case you are master of the situation, and in the latter quite likely to be a slave to it. But the former course, although it may seem to involve more work at the start, is in reality much the easiest. It is largely a matter of thoroughness with the things you do in your garden during the first couple of months of the season.

There are some five or six "operations" which the gardener, large or small, must perform repeatedly for the first few weeks, on Saturday afternoons, in making the garden.

The first, after the initial handling of the soil, which was discussed in last month's issue, is:

Preparing the Seedbed.—"Rake a piece of ground smooth and plant"—that sounds easy enough, but it depends upon how you do it.

If you do it right it is not an easy job or one quickly finished.

The importance of having the ground deeply and thoroughly dug and well broken up was discussed last month. On top of that must come thorough work with the iron rake, involving plenty of "elbow-grease," for which no satisfactory substitute has yet been discovered. When the seed leaves the packet and reaches its new home in the soil it will sprout—provided conditions are right. In Nature gardening, perhaps one seed out of a

VEGETABLES TO PLANT THIS MONTH

In a Medium-sized Garden. Four Plantings.

First Planting.—Cabbage, early; lettuce plants; onion sets; peas, smooth; radish; spinach; Swiss chard.

Second Planting.—Beets, plants; beets, early seed; carrots, early; cauliflower; leek, in seed border; onion, seed; radish; turnip.

Third Planting.—Cabbage, summer; cabbage, in seed border, for fall; lettuce, seed; parsnip; peas, wrinkled, two varieties; potatoes, early; salsify.

Fourth Planting.—Beets, summer; carrots, summer; kohlrabi; lettuce, cos; onion, seedlings, Spanish varieties; peas, late; radish.

thousand may find the right conditions. But the gardener, who has voluntarily taken over Nature's job, becomes responsible. He cannot, of course, control the temperature, which is one of the factors, but he can withhold his seed until he thinks that the temperature is likely to be favorable for what he wants to

grow. For the other condition, moisture, he must be, during the early stages of growth, quite responsible. And the soil to supply it must be made fine enough to pack up close and tight against the seed on all sides. A soil that is lumpy, and consequently full of small air spaces, will not do. Moreover, the soil must *remain* moist during the period of germination, which, for ordinary garden seeds, takes from six to

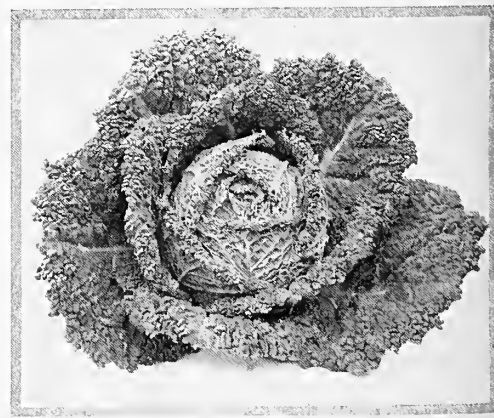
twenty days. For this reason the soil, in addition to being fine, must be made compact enough to provide capillary action, by which water is drawn up to the surface from the depths below. Leaving the soil too loose, although it may have been thoroughly dug and raked fine on the surface, is one of the common causes of failure in the beginner's garden. It should seem firm beneath the foot when you tread on it.

Seed Sowing.—Lay your garden line across the freshly raked surface and mark out with your hoe handle the first row. Be sure you have your seed drill adjusted just right—unless you have used it frequently enough before to be familiar with its operations—test it out on the smooth floor. Be sure of just exactly what you want to plant that day and how much of each thing before you begin, so that your work may be systematically laid out. The order of planting that is suggested herewith will give you an idea of just how to proceed in case the work is new to you.

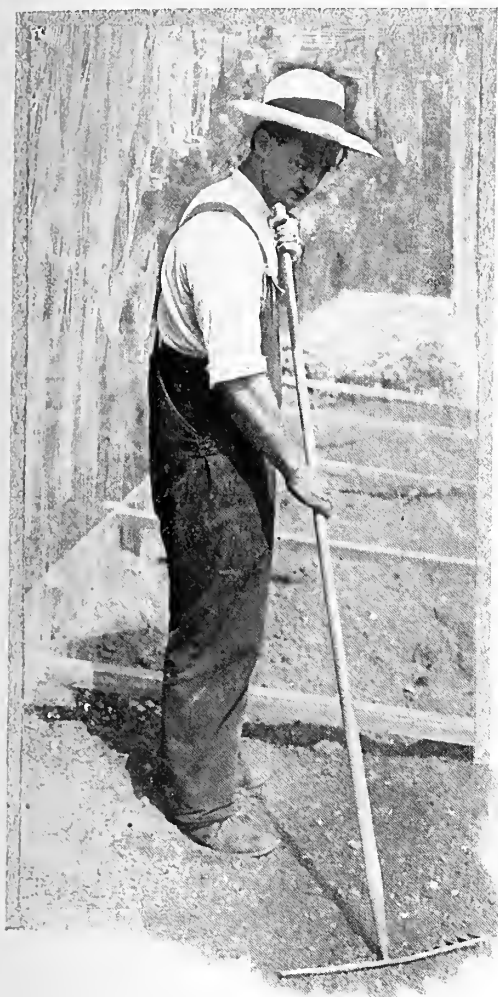
In using the seed drill, here are a few things that you should see to—that the opening plow is set at just the right depth, and *kept tight*. Be sure that it is also free of weeds and rubbish—a small piece of sod or manure dragging along may catch the seed as it falls, so that it will all be



Sow seeds of cauliflower late this month—or later—letting it follow some early crop



For the home vegetable garden it is difficult to find any cabbage better than the Savoy



Preparing the seed-bed is one of those operations that must be done right; the work is simple enough—rake a piece of ground smooth and plant

the soil is wet and sticky; very fine seed, such as lettuce or celery, may be picked up by the roller. Be careful to keep the front or drive wheel accurately on the mark at all times, even when you are looking to see how the seed is dropping.

Planting by hand does not require much attention from the gardener who owns a seed drill. But flower seeds, seeds sown in a short row for the seed border and such large things as peas and beans, especially lima beans, and the various vine crops, usually are put in by hand.

Small seeds can be sown from the packet, tearing off one corner. In sowing others, they can be carried in a small tin pail or dish. Take up only a small amount of seed at a time, and "feed" it out between the thumb and forefinger along the row or drill. After sowing, press the seed sown lightly but firmly into the soil, with a short piece of board or the back of a narrow hoe or the ball of the foot. This fills up the undesirable air spaces and packs the soil closely up against the seeds so that the latter are readily supplied with moisture. After covering the seeds with the hoe or wheel-hoe, tamp the soil along the top of it firmly, so as to restore the capillary action and to mark the row plainly. Make it a rule as each thing is planted, and before you put out anything else, to mark and put in its place a tag or a label—8" garden labels can be bought for forty or fifty cents a hundred.

Transplanting.—Next to seed sowing, the most important of early garden tasks is setting out the plants. Transplanting may seem to the beginner a very simple job, but most beginners, and frequently even experienced gardeners, fail to do it properly. What has been said in regard to the thorough preparation of the

dropped in one place. Be sure that the seed is dropping regularly, and clear to the ground. A lump of moist dirt at the end of the seed spout may clog it up. Do not attempt to plant when

soil in connection with seed sowing applies equally well to the setting out of plants. While plants can be set out on a lumpy, ill-prepared surface, to get the best results, just as much care should be taken in the preliminary work as though it were expected to sow the smallest seed. The soil must be fine in order to be packed around the minute root hairs, which form again after the plant has been set out. And the soil must be fine on top to form a dust mulch, a condition in which it cannot be easily put after the plants are set out.

The plant to be set out will have been grown in flats, in pots, or directly in the soil in hotbed or cold-frame. In any case, they should be given a thorough watering at least some hours previous to the time they are set out. The flats, of course, can be loaded directly onto the wheelbarrow and taken out to the garden. The pots are not so easy to carry, and if there are any number of them, or if they have to be taken any distance, a good method is to knock the plants out of the pots and to pack them carefully into an empty flat. Wrap each ball of roots in newspaper. The plants should be sheltered as much as possible from wind and sun. For this reason a cloudy, quiet day is preferable, but in the home garden, where the number of plants to be set out is usually small, it can be done late on any Saturday afternoon. In taking plants from the flat or frame, it is best to cut them out with an old knife, as a much better ball of earth and roots can be had in this way. The rows should be marked out before any plants

SKELETON PLAN FOR THIS MONTH'S PLANTING

Cabbage	2½ ft.	} Plants to be followed by succession crops
Cauliflower	2½ ft.	
Beets	15 in.	
Lettuce	15 in.	
Lettuce	15 in.	} Seeds to be followed by other crops
Beets	15 in.	
Carrots	15 in.	
Turnips	15 in.	
Kohlrabi	15 in.	
Spinach	15 in.	
Swiss chard	18 in.	} Seeds, crops remaining until fall
Onion sets	12 in.	
Onions	12 in.	
Parsnip	18 in.	
Salsify	18 in.	} Seed may be followed by late fall crop
Peas, dwarf	18 in.	
Peas, tall	4 ft.	
Potatoes, early	2½ ft.	

Using the above plan—which shows but *one row each* of the various early-planted vegetables—as a guide, make up your own planting plan, showing the number of rows of each thing, and the varieties that you want. (Onion sets and spinach are placed on either side the Swiss chard row, to leave plenty of room to cultivate and gather it after they are harvested. Radishes may be interplanted, or sown in the "seed-bed.")

are taken out. It is better to have two to do the work if possible—one to drop the plants and one to set them, so that they may be got into the ground as soon as possible after being removed. There are various small, hand tools which (Cont. on p. 296)



After sowing, press the seed down into the drill with the edge of a board or the back of a narrow hoe



The hall is the first part of the interior seen by the stranger and gives the impression of the spirit of the household and the personality of its occupants. It should be a place to pass through conveniently and ought to be pleasant enough to invite one to linger on the way

The Inviting Hall

ITS PURPOSE AND PERSONALITY—THE THREE TYPES OF HALLS—THEIR ARCHITECTURAL AND DECORATIVE TREATMENT—MAKING THE UPSTAIRS HALL ATTRACTIVE

ABBOT MCCLURE AND HAROLD DONALDSON EBERLEIN

THE hall should always be inviting. It is the first part of the interior seen by the stranger and gives the first impression of the spirit of the household and the personality of its occupants. Its function is to afford ingress and egress, privacy to the rooms from those entering, and protection from draughts. It is a place to pass through conveniently, and ought to be pleasant enough to invite one to linger on the way. Needless to say, it should have an aspect of breadth and space and give no suggestion of stuffiness.

There are three general



In the long, narrow hall the less furniture the better. A table and one or two chairs are quite enough

types of halls, and upon the type depends the method of architectural and decorative treatment. The hall of the first type is a commodious passage and a connecting link between the rooms. It is of convenient dimensions, of agreeable aspect, and lends itself readily to numerous phases of treatment. It is the sort of hall we find in so many of the broad, old Georgian houses, almost as wide as a room, and oftentimes running the full depth of the house, with a garden doorway at the opposite end from the front door. The stairs may form a conspicuous

feature in the rear part of the hall or they may be in a small offset or room, so that the hall is, in effect, a long and narrow room. This spacious type of hall, usually with the stairs visible, has always been in favor since the Colonial period, and is still popular.

The hall of the second type is in reality a kind of living-room into which the house door opens directly, and is to be dealt with, for the most part, as a room. This type is especially suited to small and informal country houses or bungalows. A generous fireplace ought, if possible, to be a conspicuous feature.

The hall of the third type is merely an abbreviated and insignificant entry, or, if it is longer, a narrow rat-hole-like passageway of thoroughly unprepossessing character and not inviting as a problem to the professional or amateur decorator.

The hall of the first type is usually of such sensible and comfortable proportions and is so easily furnished that we need scarcely consider it from the architectural point of view with the object of alteration. The same thing may be said of the hall of the second type, but the hall of the third type presents serious difficulties that only heroic treatment can overcome satisfactorily. Such halls lack light and are ill-proportioned. The best thing to do is to eliminate such a hall by throwing it into an adjoining room, leaving merely such supports as may be necessary to sustain the floor joists above. No serious objection can be made to this alteration on the score of either privacy or protection from draughts. Privacy can be attained by the use of screens or by a draw curtain attached to rings sliding along a pole. When not needed the screen can be removed or the curtain drawn back, and then the hall becomes a part of the room.

The stair is the next feature to claim attention. Allusion has been made to halls, in some of the old houses, where the stair is placed in an offset and does not figure in the central hall. Sometimes this offset is closed by a door and partition, an arrangement doubtless adopted to keep what heat there was

time from ascending to the floors above. It is far more usual, however, to have the stairs visible and constituting a prominent feature in the hall. Fortunately, when the stair is awkwardly built, it is usually susceptible of readjustment and improvement, and may oftentimes be made a distinctly decorative element, especially when the newel posts and banisters are of interesting workmanship.

It is always desirable to have a stair broken into several flights, and this arrangement is preferable because such a staircase is more comfortable to ascend and descend than one of an unbroken flight, and, moreover, is readily amenable to agreeable decorative treatment.

Whether in making alterations or building anew, it is most important that the staircase should be of generous breadth and of proportions to accord with the dignity of the rest of the house. More important still, from the practical point of view, the measurement of the treads and risers should be such that ascent is easy and made without conscious effort.

It will be found that treads 12" broad with risers 6 $\frac{1}{4}$ " high will make a delightfully comfortable stair, or the treads might be 12 $\frac{1}{2}$ " broad and the risers 6" high. Whatever measurement is decided upon, it is useful, as a rule of thumb, to remember that the dimensions of the breadth of the treads and the height of the risers ought to be multiples of 75.

It is not uncommon to find in farmhouses a boxed-in or closed stairway that is depressing in appearance and a menace to safety by its steep pitch. To solve this problem knock out a partition at one side of the stairs, leaving posts at necessary intervals to support the joist of the floor above, and changing the pitch of the stairs by bringing them down into the room with a turn, thus making two or three flights where there was but one before. At the same time the room will appear larger. When it is not possible to change the pitch of the stairs and incorporate them in a room, some improvement, at least, may be effected by knocking out a part of the partition and filling this space with turned balusters or spindles.

Second floor halls should be large enough to contain such pieces of furniture as highboys or chests of drawers that can serve both decorative and useful purposes



The paneled hall, even if commodious, needs but little furniture. A fireplace is always an attractive addition. There should be plenty of light in such a hall



Second floor halls should be large enough to contain such pieces of furniture as highboys or chests of drawers that can serve both decorative and useful purposes

Passing from the physical aspects of the treatment of halls, we come to a consideration of the several ways in which floor, walls and ceilings may be dealt with. It is not advisable to carpet the hall over its whole surface. It is much better to have either rugs or runners that can be easily taken up and cleaned, for there will necessarily be more or less dirt brought in from outdoors. When the hall is not of the second or living-room type, the flooring may often appropriately be made of tile, concrete, or even stone. We have become so accustomed to using the wooden floors that we go on laying them from force of habit. The objection will be made, of course, that tile, concrete or stone flooring is cold, but it may be answered that halls not combined with living-rooms are not intended to sit in, and therefore their coldness is not a serious drawback. On the other hand, they are subjected to more or less hard wear, especially from water and mud brought in by wet umbrellas or miry boots, and a floor of one of the last-named materials is readily cleaned and does not show the marks of wear. Flooring of this sort has been used with the most satisfactory results in a number of recently-built houses, and it is a common practice to employ it in country houses in England. It is particularly suited for the long galleries, which are long halls, and have become a somewhat popular feature in recent American country houses. The most satisfactory and sanitary flooring of this type is made of large, red quarry tiles, but tiles of other descriptions may also be used, as well as brick, concrete or stone. A flooring, tiles of irregular surface with wide concrete joints between, or random-laid stones, are open to the objection of inconvenience and dust catching.

One of the first essentials for hall walls is that they should be of sufficiently neutral character not to clash or make violent and unpleasant contrasts with the schemes of the rooms open-



Although in this instance the stairs were built open, it suggests a possible treatment for stairs that have been boxed in, a change worth considering in remodeling an old house

With gray walls, however, gray woodwork is often desirable and pleasing in effect. Only in commodious halls where there is a good light will wood in natural finish be advisable or appear to the same advantage that the lighter woods display.



Tiles for flooring in a hall that also serves as living-room are a distinctly decorative asset. Rugs will dispell the chill in winter

ing therefrom. In the next place they should be light enough in tone to lighten the darkness of a dark hall and to brighten an area that, in any house, is rarely as well lighted as the rooms. The walls may suitably be paneled, painted, if the plaster be sufficiently good, papered with plain and unobtrusive paper or left with the plaster sand-finished rough, which may either be tinted or left its natural hue.

Whether painted, papered, paneled or sand-finished, color must be considered first. Colonial yellow, tan, fawn, light gray, light coffee color, or gray with an element of yellow in it, may be recommended. If there is enough warm light in the hall, even though narrow, other colors, such as sage green or old blue, might be used, but the first-mentioned hues will generally be found preferable. The woodwork in most cases should be white.

For paneling that is to be painted—while some hard wood is desirable—well-seasoned poplar, pine or cypress may be satisfactorily employed. Plaster walls should not be painted unless the surface of the plaster is entirely free from cracks and hair lines, otherwise the appearance of the paint will soon be spoiled by its bad backing. Paint may be either left dull or finished with a gloss. In a case of bad plaster, the walls may be covered with canvas or burlap, tightly glued on and then painted. Plain felt papers of desirable color are easy to obtain. It is worth noting that some excellent paper is to be had resembling cut Caen stone. If a glazed surface is preferred, some excellent patterns are to be found in bright-hued, glazed paper of old-fashioned pattern. Sand finish, though slightly more troublesome to apply than the ordinary white

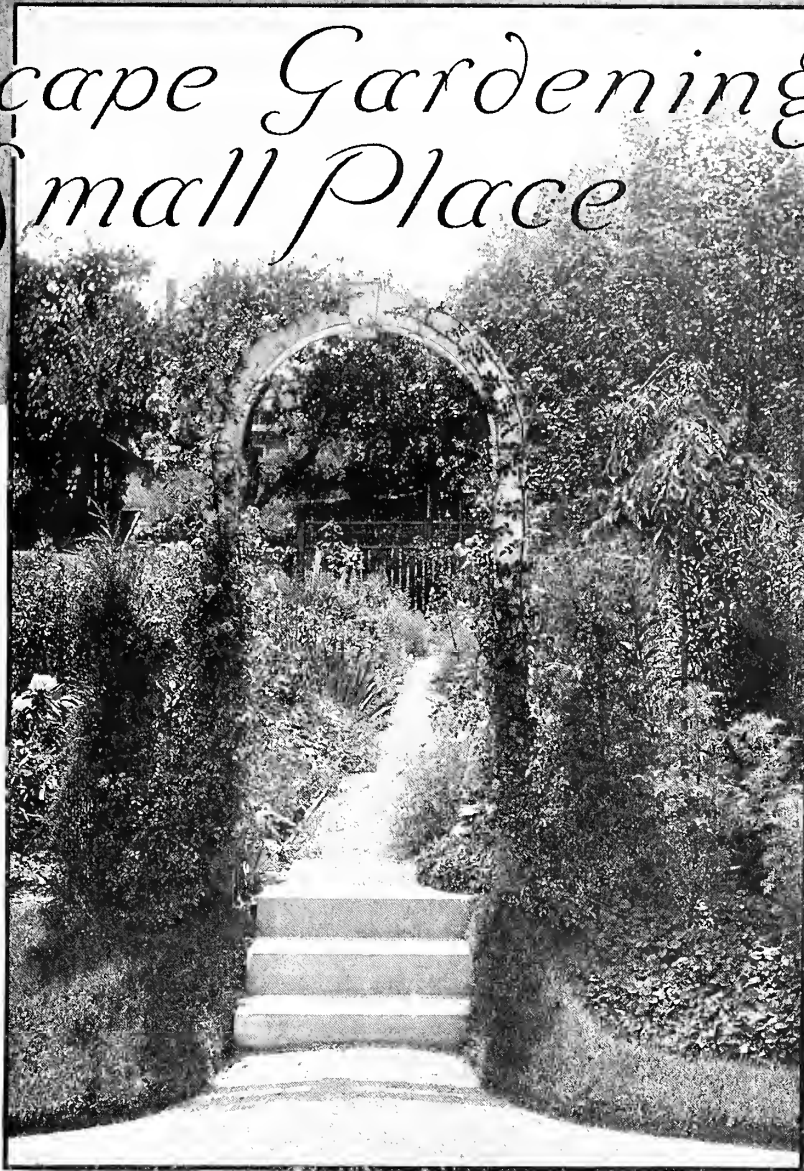
(Continued on page 312)

Landscape Gardening on a Small Place

IN the development of the small lot it is best to center all the attention upon one important feature. This feature should be in full sight of the house and have a close relationship to it. It should have individuality enough to perpetuate genuine pleasure in it. It should have elasticity enough to offer a chance for the expression of changing and growing interests. It should have a distinct originality which will grow in the hands of the ingenious designer directly out of some character peculiar to the site itself. These principles underlie the development of this property.

The unobtrusive, low shrubbery, still rather unconvincing in its newness, which is planted along the front of the house, conforms with the quiet character of the narrow Plymouth street overshadowed by old elm trees. The front of the house is simply good to look upon. There is nothing of particular interest or striking originality. This is left entirely to the development of the ground in back of the house. There the attention is focused upon the garden.

In the beginning it was only a deep, uninviting hollow. Now it is an oval flower garden. In May, 1913, it was an unsightly dump, an ugly hole in the ground. On the 20th of August of the same year there was a carefully arranged garden with abundant bloom and color. By July of the next year astonishing growth had sprung up. Later pictures



A glimpse into the informal garden shows a bright tangle of color in old-fashioned plants and favorite flowers of odd tints and curious shapes

THE FORMAL AND INFORMAL GARDENS OF A
PLYMOUTH PROPERTY—ELIZABETH LEONARD
STRANG, LANDSCAPE ARCHITECT

ELSA REHMANN



In May, 1913, this was an ugly hole; four months later by an almost magic transition had it been made a carefully designed, well ordered, formal garden

will show still heavier growth, but these early pictures shown here convince one of the efficiency of a plan in which the work is carried on skillfully and rapidly without unnecessary readjustments of haphazard and disjointed ideas. The ordering of large-sized plants, the planting of heavy clumps for later thinning and the use of annuals for filling in bare spots gave in a few months a full-grown effect to the garden.

Its oval shape and symmetrical treatment fit naturally into its sunken position. Its full expanse is seen in a semi-bird's-eye view from the house. The path on the shorter axis of the oval, centering on the central doorway and terminating at the generous seat under the trees, binds house and garden together. A path cuts through the oval on the longer axis. These two paths dividing the oval into four equal parts meet at the center in a circle.

The main lines of the design have a simplicity of which one cannot tire. They have a strength which holds together all the minor elements. For convenience in caring for the flowers in the very wide borders a stepping-stone path describes an inner oval. In summer it is almost lost in the thickness of the foliage, but in spring it strikes a minor chord in the composition.

The flowers are arranged to carry out and emphasize the design. The four parts of the oval are so planted that at first glance they appear symmetrically correct.



The long path of the formal garden in phlox time, showing the relation between the two gardens and the transition from one to the other

In early spring this effect is gained by the careful distribution of early flowers. Daffodils skirt the outer edge of the oval, scillas and snowdrops, primulas and fritillarias are planted between the stepping stones, early pink and rose tulips and Mertensias circumscribe the circle with lavender Darwin tulips describing a wider circle around them.

A little later in the season the effect of symmetry is continued by dividing equally between the four parts masses of iris and

strikingly picturesque accent in height.

In order to emphasize the short path, a balanced arrangement of flowers is quite rigidly adhered to in the borders on either side. Throughout its length English daisies and early tulips make a continuous border in early spring, to be followed by forget-me-nots. In back of them is a row of salmon-pink sweet William (*Dianthus barbatus* var. Newport pink), whose June flowers are replaced by the later bloom of heliotrope and pink stocks. The

white and pink peonies in back of the sweet William in the nearer borders are replaced by the yellowish blush *Paeonia Canari* farther away.

Where the circle breaks the path in two, groups of purple Japanese iris make an emphatic end to the borders; pyramidal foxgloves make tall June accents at the beginning of the path, and day lilies (*Hemerocallis flava* and *H. thunbergii*, interplanted) terminate the other end.

A balanced effect is also felt in the arrangement of the flowers on either side of the longer path. Bordered by alyssum saxatile and Arabis, Adonis and white wild geranium, Carpathian harebells, statice and sedum, the edge is kept in continuous bloom. The varying greens and gray greens of the foliage add a special interest to these compact, matlike ground covers. In back of this edging of dwarf flowers the irises, Queen of May, pallida and Purple King range from soft lilac pink, through blue to deep purple.

At the circle the symmetry is most strictly carried out. This is done to focus all the attention upon this central point and bind together the many motives of the flower design.



The house is in keeping with the quiet character of a New England street, overshadowed by old trees. Note the vine covered panels of the wall



The back of the house is so arranged that the descent into the formal garden is gradual and gradually formal. The lattice screened laundry yard, which will eventually be covered with vines and hidden by arbovitæ, is an excellent development

Four terra-cotta pots with salmon-pink geraniums are placed in the circle. The planting in the borders is arranged in a series of inscribed circles. In the first tier the early-blooming *Mertensias* make a complete circle with blue flowers that fade into pink. These are replaced later on by deep-purple pansies var. *Emperor William*. During July this tier is made effective by eight *Oenothera Missouriensis* placed at the points where the paths converge into the circle. The large, bright yellow flowers make a brilliant color note especially striking in front of the deep purple of Japanese iris in an outer circle. In the second tier *Iris Purple King* continues the color effect of the purple pansies. In the third tier are peonies in a deep pink and rose circle. Each peony is encircled by a dozen pink tulips, whose early flowers have disappeared by the time the peony has opened its abundant foliage. In the fourth tier are the purple Japanese iris. With them the circular treatment fades into the masses of phlox, which help to develop the oval outlines of the garden.

Special attention has been given to color in this garden. Not a single jarring color note can be found in it. Only the clearest of yellows, the softest of pinks and rose, the quietest of lavender, blues and purples and harmonizing whites are used in this elusive

pattern of color, and the result is satisfactory in the extreme.

It is obvious that in such a formally arranged garden the succession of bloom is most carefully developed. Early tulips and daffodils; Darwin tulips and irises, peonies, foxgloves and sweet Williams, larkspurs and phloxes, Japanese anemones and asters, and chrysanthemum give continuous bloom. Coming into flower one after another with varying lengths to their periods of bloom they present a closely interwoven succession. Used in big masses, they form the major succession of bloom.

Complementing it is a minor succession. Bright-yellow *Alysum saxatile*, pure white *Arabis*, blue *Mertensia*, pink bleeding heart, yellow *Trollius* make a spring medley of bright color. Columbine and yellow day lilies accompany the bloom of German iris; *dictamnium* and campanulas that of peonies. Purple *Viola cornuta*, creamy-white and pink spiraea, lavender *Galium*, snow-white *Achillea*. "The Pearl" and filmy *Gypsophila*, the baby's breath, accompany the flowering of the larkspurs. Yellow *Anthemis*, lavender *Sedum spectabilis*, blue statice, and purple veronicas are in flower, while the phlox is blooming. Pink snapdragons complement the delicacy of Japanese anemones, salmon-

(Continued on page 279)



Planting the Flower Garden



I.—For Bedding and Masses

FLOWER.	CLASS.	HEIGHT.	SEASON.	COLOR.	SPACE.
Asters.....	Any.	18-30	July-Sept.	Various.	12-18
Balsam.....	B, C	10-18	June-Sept.	Various.	15-20
Begonias.....	A	12-18	June-Frost	Red, pink, white	10-15
Bells (Daisies).....	A	12-18	April-July	White, pink, red	6
California Poppy.....	C	12-15	July-Sept.	Orange, yellow	6-8
Chrysanthemum, annual.....	A, B	21-36	August-Frost	Various.	12-18
Geraniums.....	A, B	12-36	June-Frost	White, red, pink	12-18
Hollyhocks (Ever-blooming).....	A, B	3-7 ft.	Aug.-Sept.	Various.	12-18
Larkspur, annual.....	C, A	18-36	June-Frost	Blue, white, pink	6-12
Marigold.....	Any	10-36	July-Frost	Yellow shades	6-12
Petunias.....	Any	12-24	July-Frost	White-Magenta	8-12
Phlox Drummondii.....	Any	12-36	July-Frost	Various.	8-12
Poppy.....	C	6-10	July-Sept.	White, scarlet	4-6
Portulaca.....	B, C	6-10	July-Frost	White, yellow, red	4-6
Salvia.....	Any	12-36	July-Frost	Scarlet shades	8-12
Verbena.....	Any	6-9	July-Frost	Blue, pink, white	12-18
Zinnia.....	Any	12-30	July-Frost	Various.	8-12

II.—For Edging and Borders

Alyssum, Sweet.....	A, C	8-15	May-Frost	White, lilac	4-8
Bells (Daisies).....	A	6-10	April-July	White, pink, red	6
Candytuft.....	Any	6-18	June-Sept.	White-crimson	6-12
Celosia.....	A, B	12-36	June-Sept.	Red, yellow, shades	12-18
Forget-me-not.....	A, C	6-12	April-July	White, blue	6-8
Geraniums, foliage.....	A	8-12	June-Frost	Variegated	8-12
Lobelia.....	Any	6-18	June-Sept.	Blue, white	4-8
Nasturtium, dwarf.....	C	8-15	July-Frost	Red, yellow	8-12
Pansy.....	A, C	6	May-June	Various.	6-8

III.—For Cutting

Antirrhinum ("Snaps").....	A, B	12-36	July-Frost	Various	10-15
Bachelor's Buttons.....	B, C	15-24	July-Sept.	Blue, white, pink	6-10
Calliopsis.....	B, C	12-18	June-Sept.	Yellow, orange, brown	8-10
Carnation.....	Any	12-20	June-Frost	Various	6-10
Cosmos.....	Any	2-8 ft.	Aug.-Frost	White, pink, red	18-24
Mignonette.....	Any	12-18	July-Sept.	Yellow, orange	6-10
Pinks (Dianthus).....	Any	10-18	Aug.-Frost	White-rose	6-10
Stock.....	A, B	12-24	June-Sept.	Various	6-12
Wallflower.....	Any	12-30	July-Sept.	Red, yellow shades	6-12

IV.—For Shady Places

Anemone, Poppy.....	A, B	15-30	June-Sept.	Various	6-10
Antirrhinum.....	A, B	12-36	July-Frost	Various	10-15
Tuberous Begonias.....	A	12-24	June-Frost	Various	8-15
Bells (Daisies).....	A	6-10	April-July	White, pink, red	12-18
Delphinium (Larkspur).....	A	3-4 ft.	July-Sept.	Blue shades	10-12
Digitalis (Foxglove).....	A, C	18-36	June-July	Pink, white, lilac	6-8
Myosotis (Forget-me-not).....	A, C	6-12	April-July	White, blue	6-8
Pansy.....	A, C	6	May-June	Various	8-18
Poppy, Hardy.....	A, B	12-36	June-Sept.	Various	8-10
Schizanthus.....	A, B	24	July-August	Yellow-lilac, mixed	8-10
Torenia.....	A, B	6-12	July-Sept.	White, blue	6-10

V.—Climbing Vines

Canary Bird Vine.....	C	10-15 ft.	July-Sept.	Yellow	8-15
Cardinal Climber.....	A, C	20-30 ft.	July-Frost	Cardinal	2-3 ft.
Cypress Vine.....	C	15	July-Frost	Scarlet, white	18-24
Dolichos.....	C	10 ft.	July-Frost	White, purple	12-18
Japanese Hop.....	A, C	20-30 ft.	Foliage	Green and variegated	18-24
Moonflower.....	A, C	20-30 ft.	July-Frost	White-blue	12-18
Morning Glories.....	A, C	15 ft.	July-Frost	Various and mixed	12-18
Nasturtium.....	C	6-10 ft.	June-Frost	Yellow and red	8-12
Sweet Peas.....	A, C	5-8 ft.	June-Frost	Various	8-12

VI.—Bulbs and Tubers

Begonias, tuberous.....	A	12-24	June-Frost	Various	8-15
Caladium.....	A, C	2-5 ft.	June-Sept.	Variegated	2-3 ft.
Cannas.....	A, C	3-6 ft.	June-Frost	Red, yellow, white shades	18-24
Dahlias.....	A, C	3-5 ft.	July-Frost	Various	12-18
Shellflowers.....	A, C	18-24	July-Oct.	Yellow, crimson, spotted	12-18
Gladioli.....	C	3-5 ft.	August-Frost	Various	8-12

Class A—To be had in plants from florist, greenhouse or frames.
Class B—To start in the seed-bed, and transplant to permanent positions.
Class C—To plant where flowers are to mature, either in rows or broadcast.

NOTES AND REMARKS*

Asters—III.—Disbud and stake for finest flowers. Protect from black aster beetle.
Balsam.—Plant where individual flowers may be seen, as near paths or in foregrounds.
Begonias—II.—Free and constant flowering. Red sorts very showy.
Bells—II.—Very free flowering and pretty. New sorts large flowering.
California Poppies.—Sow early. Cover lightly. Thin out before crowding.
Chrysanthemum, Annual—III.—Disbud for finest flowers. Watch for aphids.
Geraniums.—Most effective in single colors. Select young, healthy plants.
Hollyhocks—VI.—The new "annual" type blooms freely from seed the first year.
Larkspur, Annual—III.—One of the finest blue flowers for either garden or cutting.
Marigold.—Dwarf named varieties. Fine for edging.
Petunias.—For double sorts destroy the rankest-growing seedlings.
Phlox Drummondii.—Very free flowering. Good in solid masses or for medium-high hedges.
Poppy.—Thin out before the plants get large. Make second planting.
Portulaca.—Especially good for hot, dry situations on sandy soil.
Salvia—II, VI.—Most satisfactory of all red flowers for masses and long borders.
Verbena.—Very free flowering. Especially cheerful in the late fall garden until frost.
Zinnia.—Easily grown. Brilliant masses of color. Dwarf named sorts fine for edging.

FOR EDGING AND BORDERS

Alyssum, Sweet.—Most beautiful and graceful of all edging plants. Slightly spreading.
Bells.—Extremely attractive, little, low-growing English daisy. Very cheerful.
Candytuft.—Desirable for edging along walks where Alyssum is too spreading.
Celosia.—Fine, new plume varieties. Especially desirable for long borders. Dwarf sorts good for edging.
Forget-me-not—IV.—Most dainty and beautiful of all edging plants. Fine, new variety.
Geraniums, Foliage, Madame Saleroi.—Best edging for semi-formal bed.
Lobelia—IV.—Best for airy, graceful, low edges and masses. Large-flowered, new variety.
Nasturtium, Dwarf—III.—Free-flowering, brilliant colors, best for poor soil.
Pansy—IV.—For summer and fall bloom make spring sowing. Keep cool and moist as possible.

FOR CUTTING

Antirrhinum—I, II.—Should be in every garden. Fine, new sorts. Dwarf and tall.
Bachelor's Buttons—I, IV.—Old favorites. Especially blue varieties. Easily grown.
Calliopsis.—Very free-flowering and of quick growth.
Carnation—I.—Very free-flowering. Last well after cutting.
Cosmos.—Large-flowered, late variety should be started early under glass.
Mignonette.—Particularly valuable for its delicious fragrance.
Pinks (Dianthus)—Universal favorite. Great range of colors. One of the best.
Stock.—Both fragrant and beautiful. Should be in every garden.
Wallflower.—Fragrant. Flowers of unusual colors.

FOR SHADY PLACES

Anemone, Poppy.—Particularly free-flowering. Very beautiful. Great variety.
Antirrhinum.—The above, under "cutting."
Tuberous Begonias.—Best of all bedding plants for semi-shady places. Fine, new sorts.
Bells (Daisies).—See above.
Delphinium.—Hardy. Best tall, blue flower. Very reliable.
Digitalis (Foxglove).—Old favorite. Very striking. Most reliable.
Myosotis (Forget-me-not).—See the above under "edging."
Pansy.—See the above under "edging."
Poppy, Hardy.—Iceland type, varied and beautiful. Oriental, very striking.
Schizanthus.—Very beautiful when other flowers are scarce.
Torenia.—Very unique and pretty. Good for vases and hanging baskets. Unusual, bird-like flowers. The newest and most striking annual climber.

CLIMBING VINES

Canary Bird Vine.—Unusual, bird-like flower.
Cardinal Climber.—The newest and most striking annual climber. File seeds slightly before planting.
Cypress Vine.—Fern-like foliage. Star-shaped flower. Soak seed before planting.
Dolichos.—New Japanese varieties, great improvement. Beautiful, good screen.
Japanese Hop.—The best "temporary ivy." Succeeds under adverse conditions. Soak seed.
Moonflower.—Set out good, strong plants after danger of frost. Free-flowering, fragrant. Soak seed.
Nasturtium.—Most reliable and satisfactory for exposed places and adverse conditions.
Sweet Peas.—Try some of wonderful, new-named sorts.

BULBS AND TUBERS

Begonias, Tuberous.—See the above.
Caladium.—Individual plants, groups of rows. Especially good for tropical effect. Very tender.
Cannas.—New orchid-flowered varieties; among the very best bedding plants. V, VI.
Dahlias—I, V, VI.—Take up and disbud for the finest flowers.
Shellflowers.—Tigridia. Large, lily-like, unique, beautiful blooms. Take up in fall, as with Gladioli.
Gladioli—I, III, VI.—Make several plantings for succession of bloom until frost. Last in June.

* Numerals refer to other groups in which plants may be classed.



Planting the Vegetable Garden



Vegetable.	Note.	Date.	Planting Data.			Days to Mature.
			Rows Apart.	Plants Apart.	Depth.	
PLANTS—EARLY						
Beet.....	E, S, F	April 1	12-15 in.	3-4 in.		40-60
Cabbage.....	E, F	April 1	2-3 ft.	1 1/2 ft.		60-90
Cauliflower.....	E, F	April 15	2-3	1 1/2 in.		50-90
Celery.....	F	May 15-July 15	2-4	6-12 in.		125-150
Endive.....	F, S, F	July	12-15 in.	12		40-60
Lettuce.....	E, S, F	April 1	12-15	8-12		40-60
Leek.....	F	June 15-July 15	15 in.	3-4 in.		60-90
Onions.....	E	April 15	12-15 in.	3-4 in.		60-90
Parsley.....	A	April 1	15-18 in.	4-6 in.		30
PLANTS—LATE						
Beans, pole.....	A	May 15	3-4 ft.	3-4 ft.		40-60
Brussels Sprouts.....	F	July 1	2-3 ft.	1 1/2 ft.		80-100
Cabbage, late.....	F	July 1-15	2-3 ft.	1 1/2-2 ft.		60-90
Cauliflower, late.....	F	July-15	2-3 ft.	1 1/2-2 ft.		60-90
Corn, early.....	E	May 15	2-3 ft.	3-4 ft.		60-80
Cucumbers.....	A	May 20	4 ft.	4-6 ft.		40-60
Egg-plant.....	A	June 1	2 1/2 ft.	2 ft.		40-60
Melons, Musk.....	A	May 20	4-6 ft.	4-6 ft.		70-100
Peppers.....	A	June 1	2 1/2 ft.	2 ft.		40-60
SEEDS—EARLY						
Beet.....	E, S	April 15-July 1	12-15 in.	2-4 in.	1 1/2-1 1/2 in.	1 oz.
Carrot.....	E, S	April 15-July 1	12-15 in.	2-3 in.	1 1/2 in.	1 1/2 oz.
Endive.....	F	June, July	12-15 in.	12 in.	1 1/2 in.	1 1/2 oz.
Lettuce.....	E, S, F	May-August	12-15	8-12	1 1/2 in.	1 1/2 oz.
Onion.....	A	April-1	12-14	2-4 in.	1 1/2 in.	1 1/2 oz.
Parsnip.....	A	April-1	15-18	3-5 in.	1 1/2-1 in.	1 1/2 oz.
Peas, early.....	E, F	April 1-Aug. 1	2-4 ft.	2-4 in.	1-2 in.	1 pt.
Peas, main.....	E, S	April 15-June 15	2-4 ft.	2-4 in.	2-4 in.	1 pt.
Radish.....	S	April 1-Sept. 1	1 ft.	2-3 in.	1 1/2 in.	1/2 oz.
Salsify.....	A	April 1	15-18 in.	2-4 in.	1 1/2 in.	1/2 oz.
Swiss Chard.....	A	April 15	18 in.	8-12 in.	1 in.	3/4 oz.
Turnip.....	S, E, F	April 1-Aug. 1	15-18 in.	3-6 in.	1 1/2 in.	3/4 oz.
SEEDS—LATE						
Beans.....	E, S	May 1-June 15	18-24 in.	3-6 in.	1-2 in.	1 pt.
Beans, pole.....	E, S	May 1-June 15	4 ft.	3-4 ft.	1-2 in.	1/4 pt.
Melons, Musk.....	A	May	4-6 ft.	4-6 ft.	1 1/2-1 in.	1/4 oz.
Melons, Water.....	A	May	6-8 ft.	6-8 ft.	1 1/2-1 in.	1/4 oz.
Pumpkin.....	A	May	6-8 ft.	6-8 ft.	1 in.	1/4 oz.
Squash, summer.....	A	May	4-6 ft.	3-6 ft.	1 in.	1/4 oz.
Squash, winter.....	A	May	6-8 ft.	6-8 ft.	1 in.	1/2 oz.
ROOTS AND BULBS						
Asparagus.....	A	April	3-5 ft.	1-3 ft.	4 in.	15-25
Onion Sets.....	E	April	12-15 in.	3-4 in.	1/2-1 in.	150-200
Potato.....	E, A	April 15-June 15	2 1/2-3 ft.	10-13 in.	2-4 in.	3/2 pk.
Rhubarb.....	A	April	3-4 ft.	2-3 ft.	3-4 in.	20-25

NOTE. A—Plants remaining the whole season.
E—Plants maturing quickly enough to be followed by others.
F—Usually sown or planted late enough to follow some earlier crop.
S—Vegetables of which several sowings should be made during the season to maintain a table quality.

REMARKS

PLANTS—EARLY

Beet.—Mark out rows with single tooth on wheel-hoe; do not plant too deep. Cabbage.—Use only a few of extra early sorts. Brannish for cut-worms. Cauliflower.—Spray for green worm; the leaves for blanching as heads form. Celery.—Plant just to crowns; give plenty of water at all stages of growth. Endive.—Blanch with boards or by tying when large enough to use. Lettuce.—Set out two or three varieties for a succession. Sow in seed border for plants. Leek.—Set in shallow trench; fill in and hill up as growth is made. Onions.—Trim back tops and roots; do not set too deeply.

PLANTS—LATE

Beans, Pole.—Start in paper pots; thin to one or two plants; transplant while small. Brussels Sprouts, Cabbage, Cauliflower.—Sow in seed bed in early June for late crop. Thin out to stand several inches apart. Cut back leaves once or twice during growth, to induce formation of good, stocky plants. Corn.—For extra early crop start in paper pots; thin to three or four plants. Cucumbers.—Start in paper pots; thin to one or two plants. Transplant while small. Eggplant.—Watch daily to protect from potato beetles. Plenty of water or mulch. Melons.—Same as cucumbers. Spray early for striped beetle and wilt. Keep clean. Peppers.—Rich soil; start in hills. Use sunc for eggplant.

SEEDS—EARLY

Beet.—Cover early planting shallow. Use thinnings for greens. Carrots.—Make early plantings small. Thin before plants crowd. Endive.—Sow when ground is moist. Thin out before plants crowd. Lettuce.—Thin early. Sow in moist soil and shade to get stand in summer. Onions.—Thin out at second weeding. Sow few radishes with them to mark rows. Parsnips.—Thin out as soon as possible. Prepare soil deeply. Peas, Early.—Smooth sorts can be planted a week or ten days earlier than wrinkled. Peas, Main.—Sow two or three varieties at a time to make succession picking. Radish.—Sow small quantity every week, for best table quality. Salsify.—Prepare soil very deeply. Thin as soon as possible. Swiss Chard.—Keep very carefully cultivated. Gather outside leaves for greens. Turnips.—Sow thinly two varieties every four weeks, for best table quality.

SEEDS—LATE

Beans, Dwarf.—Make first planting in lightest and driest soil available. Beans, Pole.—Plant limas, including dwarf sorts, eyes down. Plant when soil is not wet. Melons, Musk.—In wet or heavy soil raise hill slightly above level. Sow 15 or 20 to hill. Melons, Water.—As above, but fewer seeds to hill, and deeper. Scatter tobacco dust or fine ashes over hill. Pumpkin, Squash (Summer), Squash (Winter).—Six to ten seeds, evenly spaced, in well-enriched, flat hills. Use tobacco dust or ashes freely on young plants. Hand-pick first large, black squash bugs. Thin to 2 or 3 plants a hill. Kill borers with wire or thin knife-blade.

ROOTS AND BULBS

Asparagus.—Trench rows deeply. Enrich well with manure. Do not quite fill at planting. Onion Sets.—If of uneven size, separate before planting, using largest to be pulled green; smallest to develop new buds. Potato.—For earliest results, sprout before planting, giving full light when sprouts start. Rhubarb.—Plant fairly deep in enriched soil. Old clumps separated to advantage.





LIVING LAWNS

THE SECRET OF THICK SOWING—CHOOSING THE RIGHT SEED FOR THE LOCATION—FERTILIZERS—THE INSISTENT WEEDS—LAWN-MOWERS AND THEIR SELECTION

There is no escaping weeds and the knife is the only weapon that wages an effective warfare on them

UNTIL a few years back it was recognized by all that a new lawn or green could not be made, if sown with grass seed, in less than three years, and this belief is still rigidly adhered to by many. But, why did it take at least three years to make a lawn? For the simple reason that the grass seed was sown so thinly (from three to four bushels per acre) that each plant had to grow to its full size before the ground was covered. This slow process suited its time, but now the strenuous life demands quicker results. By a series of experiments, not only have several new or improved varieties of grasses been found, which tiller out over the ground instead of growing in tufts, as the older varieties did, but by judiciously increasing the amount of seed sown per acre, according to the fineness of the mixture, the quality of the soil, and the time in which the turf is required for play, a lawn or green can be, and has been, made with a close, uniform and even turf, fit for play in from about nine to twelve months from the time the seed was sown. I have seen lawns, greens, and entire golf courses grown in eight months, and not only was the turf strong enough for regular play, but it had the appearance and bottom of a good, old turf, such as is found at the seaside and in

some famous parks; and I have actually seen a golf green turfed with turf only six months old. The seed was sown late in October and the turf was cut and laid in the following April. This was in England.

The method which should be employed for procuring a turf in the shortest possible period of time is as follows: A good time to commence the operation of making a new lawn is as soon as possible after the break-up of the hot summer weather, with the intention of sowing, if possible, at the end of August, or during the early days of September. The soil is warm at the end of the summer, and an abundance of rain and dew may be expected, which is very beneficial to the growth of the young grass before the real cold weather sets in. As weeds are far more in evidence in the spring than they are in the autumn, it follows that the long start given to autumn-sown grass should make it better able to withstand the onslaughts of any weeds that may be lying dormant in the soil when they appear in the spring. For spring growing, prepare the ground as soon as the weather permits, and sow the seed as soon as weather permits.

It is good policy to allow as much time as possible to prepare the ground. A month or six weeks is not too much, as the surface will, to a certain extent, find its own level, which can be more easily corrected before than after the seed is sown. Work that is done in a hurry is generally badly done, as it gives no chance for the surface to consolidate, which is so essential for the welfare

of the young grass plants or for quick-growing weeds to show themselves and be destroyed before the grass seeds are sown. A lawn made and sown at the end of August or the beginning of September should be fit for play by the middle of the following summer; if sown in the spring it should be fit for play before the end of the summer. The making of a new lawn can be roughly divided into five operations, viz.: digging, manuring, preparing the seed-bed, seeding, and after treatment.

Dig to the depth of a spade, turn the soil well over, break up the large clods, pick out all large stones, weeds, roots, etc. Grass being a shallow-rooted plant, makes it quite unnecessary to work the soil to a greater depth, unless the old turf is to be buried; then the surface should be turned under to a depth of two spits. Work into the soil a generous quantity of manure. This is the most important operation in the making of a new lawn or green, and I cannot too strongly recommend it to be given very careful attention, because, no matter how good the soil may be, the results will be both better and quicker if it is well manured. The best general manures for digging in are fresh peat moss, stable manure, old, well-rotted short straw, and artificials. The peat moss and rotted straw manures should be spread over the surface at the rate of one load per 100 square yards, and forked or dug into the soil in such a way that the bulk of it remains within 2 ins. or 3 ins. of the surface. The artificials should be broadcasted over the surface at the rate of 2 ozs. per square yard and raked in.

Some people maintain that manure, if used, should be buried at least 6 ins. deep, while others hold that it should not be used at all, otherwise the grass will grow coarse and rank. I have proved over and over again that the closer the manure is to the surface the better and quicker are the results, because the young grass can reach it quickly during the early period of its existence, whereas if it is buried deeply it will take months for the roots to reach it, and it often happens, especially during unfavorable sea-

sons, when grass grows very slowly, that it perishes for want of manure, in spite of the fact that plenty has been put in the ground, but out of reach. The suggestion that manure makes grass grow coarse and rank is another fallacy. If a mixture of coarse grasses is sown, a coarse turf will be produced, but if a mixture of the finest grasses is sown a turf of the finest quality will be formed.

Prepare the surface by breaking up the clods, removing large

stones and all weed roots with an iron-toothed rake; then roll, rake and tread the ground until the surface becomes quite firm, true, fine, and when walked on hardly shows the imprint of the foot. It will then be ready to receive the seed. Sow the seed on the raked surface at the rate of 1 oz. per square yard, choosing a calm, dry day for the work; otherwise much of the seed may be blown away and lost; or, should the soil be wet, it will stick to the operator's boots, and in this way the level may be seriously disturbed. Divide up the ground into strips about 3 ft. wide by means of pegs and string, and divide the seed into as many equal portions as there are strips or squares; this will be found to be an easy way to ensure an even distribution of the seed. Sow the seed by hand, with the back bent, taking care to spread it as evenly as possible over the surface. The seed must now be covered to a depth not exceeding $\frac{1}{4}$ in., otherwise much of it will be lost. The most

simple way to do this is to lightly rake the surface in two directions, taking care not to bury the seed too deeply. The ground should then be rolled and cross-rolled with a light roller.

Under favorable conditions the young grass should appear above the ground in about five to ten days if autumn sown, and fourteen to twenty-one days if spring sown, according to the weather. When about 1 in. high it is greatly benefited by a dressing of fertilizing fiber, malt culms, rape dust, or prepared compost. These top-dressing materials are gentle in action; they

(Continued on page 283)



The healthy, living lawn is the result of the careful seed selection, generous sowing, occasional fertilizing, a constant clipping and rolling—and years of growth



Give the peonies a chance in a hanging basket or a vase of this kind between the windows



Once children are interested in the care of plants and taught the rudiments of the work, they can be put in charge



Lift some mint from the bed, pot it and trim down, and a bright spot of green is produced

New Use for Old Plants

HOW TO USE HARDY PLANTS INDOORS—TREATMENT FOR SCRAGGLY GERANIUMS—MAKING THE WINDOW-BOX SERVE A DOUBLE PURPOSE—AN EXPERIMENT WORTH TRYING

LUKE J. DOOGUE

ANY suggestion that would open up possibilities of increasing the supply of flowers for the house during the early spring months should certainly be in order, and this suggestion is to use hardy plants in the house and outside of the house fully flowered, in the spring months before the frost had gone. For the inside, keep them in the window in the sun; for the outside put them in boxes, the window boxes that you use for the usual summer plants.

This is the plan. It can be carried out with a surprising degree of success. The idea of using hardy plants in the house seems so absurd to many of the admirers of these plants that they choke with indignation and reel off a thousand objections to such a proposition. Some of these same people are not aware of the fact that most of the large nurseries of the country, to meet an ever-increasing demand, are growing their hardy plants in pots so that the making of a hardy garden is not dependent on time or weather, as has been the case in the

past. How often it has happened that an unlocked early spring with a burst of heat has suddenly brought everything into flower and leaf and suddenly terminated all planting operations? What tempers and plans were destroyed by such a happening! Happily, this is over. Surely, such treatment as potting hardy plants has resulted in a better demand for them, with no damage to their good qualities.

If there is no crime in potting these plants for use in the garden, surely the dispensation could be stretched to allow some of them to get inside the house if such an entrance will tend to brighten the dull days of spring.

There is as great a need of novelty in the manner of using plants as there is in handling any other commodity, and that element of novelty is always possible if a little serious consideration is given to the subject.

A bed of geraniums planted out as they usually are is always a bed of geraniums, (Continued on page 281)



This trollius was dug up in full bud and in a short time had sixty blossoms. It was a glorious sight



This is the sort of plant that makes window decoration a joke. They are used all too frequently



Aquilegias in full bloom at the window. If properly cared for, these plants will last for several weeks

A House Made for Sunlight



Spanish Mission style adapted to the bungalow is a tempting form for architects, and in California it has been adapted successfully, as in this instance. Every possible means of letting the sun into the house has been provided—wide windows and generous patio

BEING A HOUSE BUILT OF MONOLITHIC REINFORCED CONCRETE, FIREPROOF AND TIME PROOF—THE CONCRETE INTERIOR FINISH—DEMOCRACY AND THE PATIO—A CENTRAL FIREPLACE AND ITS ADVANTAGES—THE POSSIBILITIES OF ADAPTING THIS STYLE OF BUILDING TO ANY LOCALITY

ALBERT MARPLE

IT is not always that one sees incorporated in a home features that are suitable for either the country or the city dwelling. True, a city type of home might be built in the country, but there would be something about it that would give it the appearance of being "placed" there and of not having "grown into its surroundings." The same would be true if the country residence were placed in the city. It would seem a little out of place. The home, then, which might, with equal propriety, be placed in either the city or the country, would be of a somewhat unusual character. Such a home is the subject of this sketch. It is owned by Ridley F. Taylor, of Long Beach, California, and is located in a semi-city district known as a suburb, and even in that locality it is right "at home."

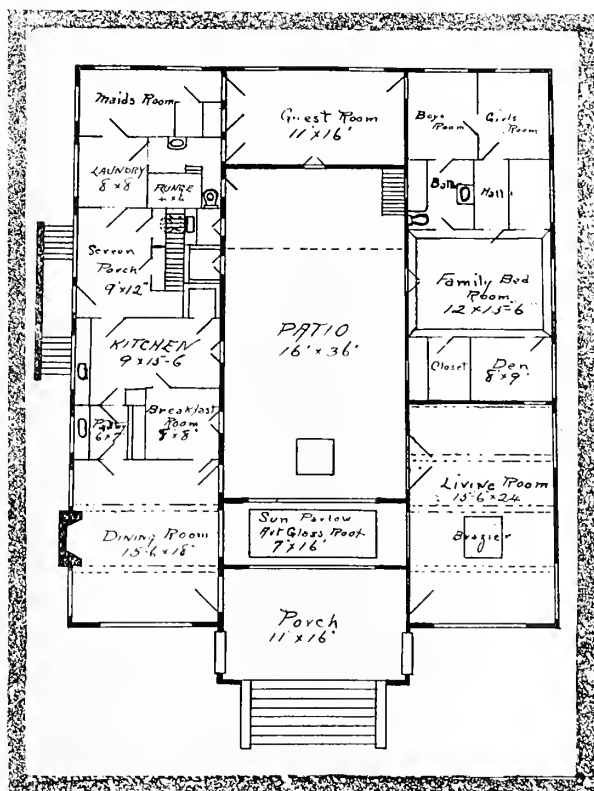
This house is a one-story structure, built along the lines of the Spanish type of architecture. It contains fifteen rooms, sun parlor and two cement porches, and cost \$20,000. It is built of monolithic reinforced concrete, which is, possibly, the most substantial form of building material known.

In many minds the mistaken idea that a concrete home is an expensive luxury still exists. The initial ex-

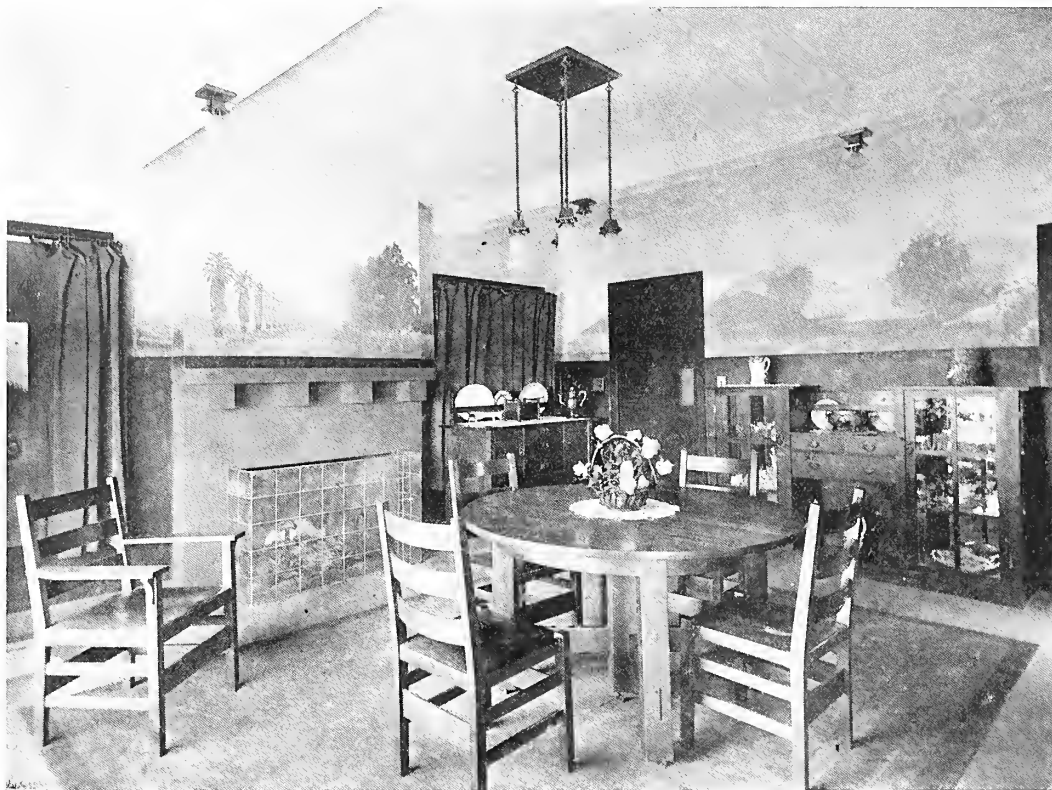
penditure is a little more, but when it is considered that when the concrete home is erected it is there to stay, necessitating no continual repairing, that far less fuel is necessary in winter to keep the rooms at an even temperature, and a great deal less ice is used in summer for cooling purposes; that there is no need of an excessive paint bill every two or three years, etc., it will be clearly seen that in the long run a home made of concrete is far cheaper than is the frame dwelling.

The word "monolithic" is synonymous with "one piece," so it will seem that this home is a one-piece structure. To all intents and purposes it is, although naturally it will not be expected that this entire house was placed at the one time: that is, the walls, floor and roof made by the same set or forms. That would have been as nearly impossible as anything could be. This house was, however, erected so that now that it is completed it is practically as strong as one piece of concrete.

The initial work of construction was to build the forms up to the floor level. During the process of placing the concrete in these the horizontal reinforcing rods were installed, and just as soon as there was sufficient



Two advantages of such a plan are the ease of access to the rooms and yet the maintenance of their privacy. Every room opens on the patio—through a French door



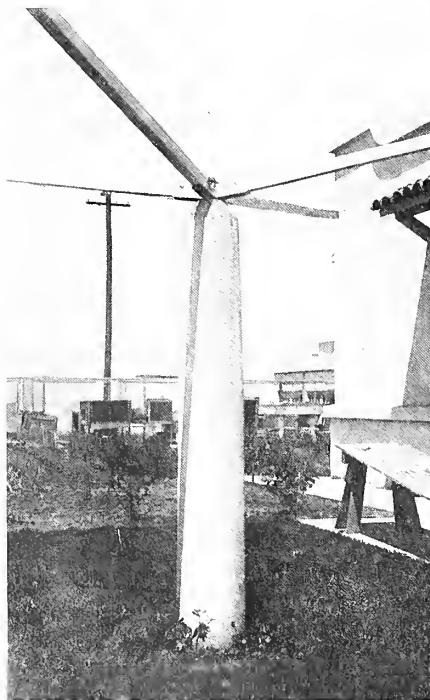
Above the high wainscot of the dining-room is a frieze painted with scenes of California. The woodwork is oak, the floor terra cotta tile, set in a brown cement border

concrete in the forms to hold them the vertical rods were placed in position. After this concrete had set, the floor slab was poured. When the concrete already in place was sufficiently strong the wall forms were erected and the concrete and steel of the walls placed. The pouring of the roof slab was accomplished just as soon as the walls were strong enough to support it with safety. It will be seen that these different sections were so joined as to make practically one solid piece. The concrete brackets for the awnings over the windows were placed during the construction of the walls, having been made ten or twelve days previous. When the forms were removed the 2½-inch slabs beneath the red tiling of these awnings were set in position.

The outside walls of this home are six inches

of Class A construction, built of ¾ Sharron iron channels, metal lath and plastered to a thickness of 2½ inches. It will be seen that there is nothing to decay or give way, everything being solid and substantial.

The home is of unique arrangement, the rooms being formed around a spacious, open-air patio. Fresh air and sunlight enter two sides of each of the principal rooms every sunshiny day. Double French doors connect the patio with the living-room, dining-room, breakfast room, kitchen, family bedroom, guest bedrooms, screen porch, plunge and dark room, making accessibility of one part of the home to another a very important feature. The patio has cement floor and walls, excepting the parts taken up by doors and windows, while the roof is of copper wire screen having ¼-inch mesh. It is drained to the center, at which point it drops through a pipe into a concrete box. The roof being of concrete, no especially prepared roofing is needed. This is used as a sun parlor and a playground for the children. It is drained to the four corners of the patio, at which points the waste water enters pipes that convey it to the box

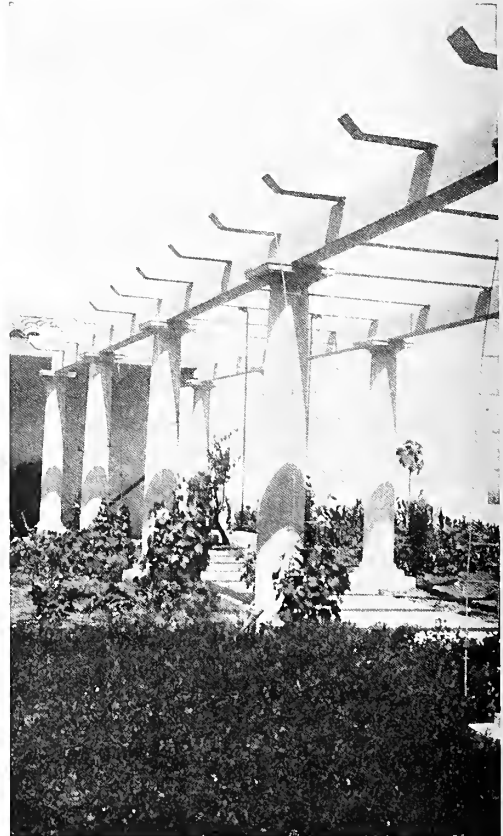


A substantial post for the clothes dryer was made of concrete, to be later planted with honeysuckle



Utilitarian throughout, concrete was employed even in such a small detail as the making of a chicken coop, rat proof and easily kept clean

thick and of solid concrete, reinforced by ½- and ¾-inch twisted steel bars, being placed two feet on centers. The beams are reinforced by steel bars, while the roof and floor slabs are three inches in thickness and reinforced by electric welded fabric, this having Nos. 3 and 8 wires, the No. 3 wires running longitudinally of the house or the longest way of the slabs. All interior partitions are



Concrete work was used even in the garden structure. The pergola is a permanent structure, and when covered with vines will prove of genuine decorative value

beneath the center of the patio, whence it is carried by a 4-inch cement pipe to the street in front of the house.

The living- and dining-rooms are finished in oak, each room having a floor of 6 x 6 terra-cotta tile, brown cement border, etc. The dining-room has a leather-effect paper to a height of five feet, above which is painted in a frieze showing scenes of California. It has beamed ceiling, which is tinted, cement fireplace, buffet, etc.

The living-room is in the natural finish of the cement, so that the grain of the wood which served as the forms is plainly seen.

equipped with a 5- x 5-foot cupola above the center of the room, this having chipped-glass lights at the sides. This is supported by a cove ceiling. The furniture in all rooms matches the woodwork.

The kitchen is a cabinet affair with 4- x 4-foot cooler having cement shelves, cement sinkboard, etc., while the breakfast room is finished with Oriental paper and handwork. The sun parlor has a 7- x 16-foot art-glass roof. Upon a background of light blue is a pergola in dark brown, interlaced upon which is a rose vine bearing dark-red and pink flowers. At the center of the sun-parlor floor is a panel of 6 x 6 tiling, this effect also being

carried out on the front porch and the approach between the house and the side-walk.

The doors of this house are all of the "slab" variety, being flush with the walls. In the planning of the house an effort was made to eliminate woodwork, and thus trim down the work for the housekeeper. There is no wood base, no picture moulding, no casing nor stool. Throughout the house 6-inch transoms cap the windows, and at points where there are two or three windows in a row, a single-light transom runs the entire width. Nearly all of the windows are of the casement variety. An idea original with the owner was to swing these windows outward, placing them outside the screen, thus protecting the screen from the weather. The curtains are fastened to the outside windows, coming between the glass windows and the screens and permitting the using of one long curtain across the entire width of the two or three lights. All the floors, except where otherwise stated, are of cement, and throughout the ceilings are tinted and are

(Continued on page 282)

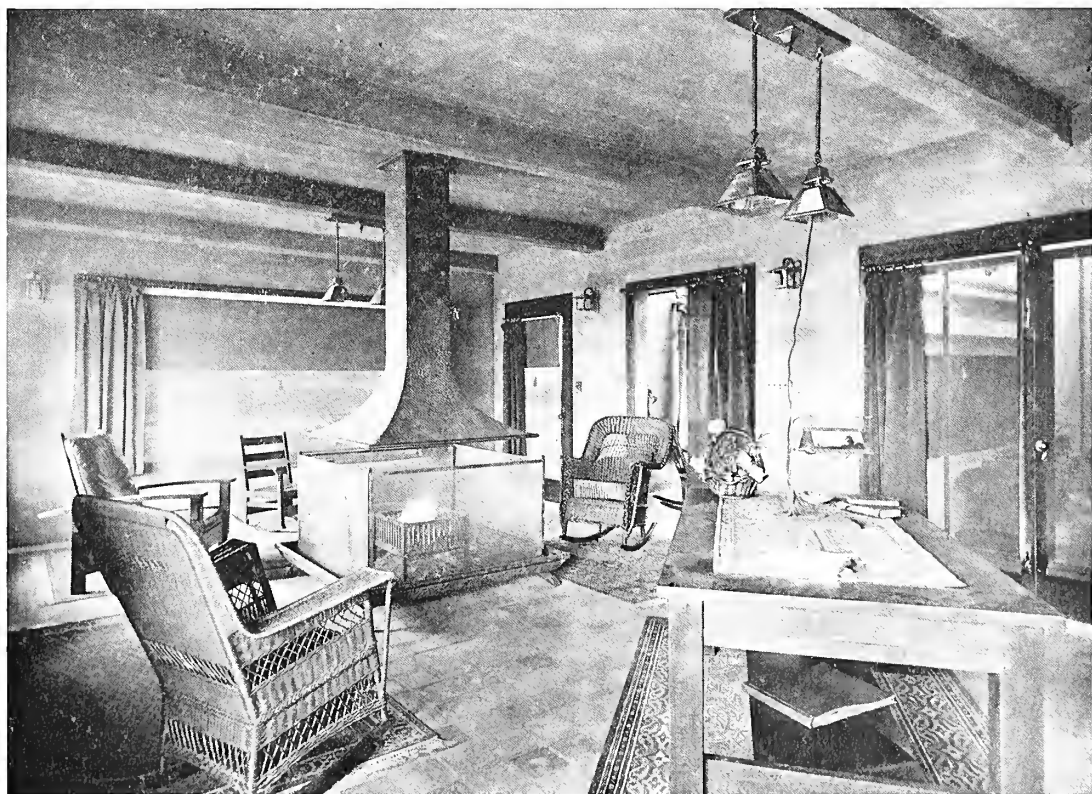


Glassed in, the patio becomes a room itself, impervious to the weather, an avenue of access to the various rooms

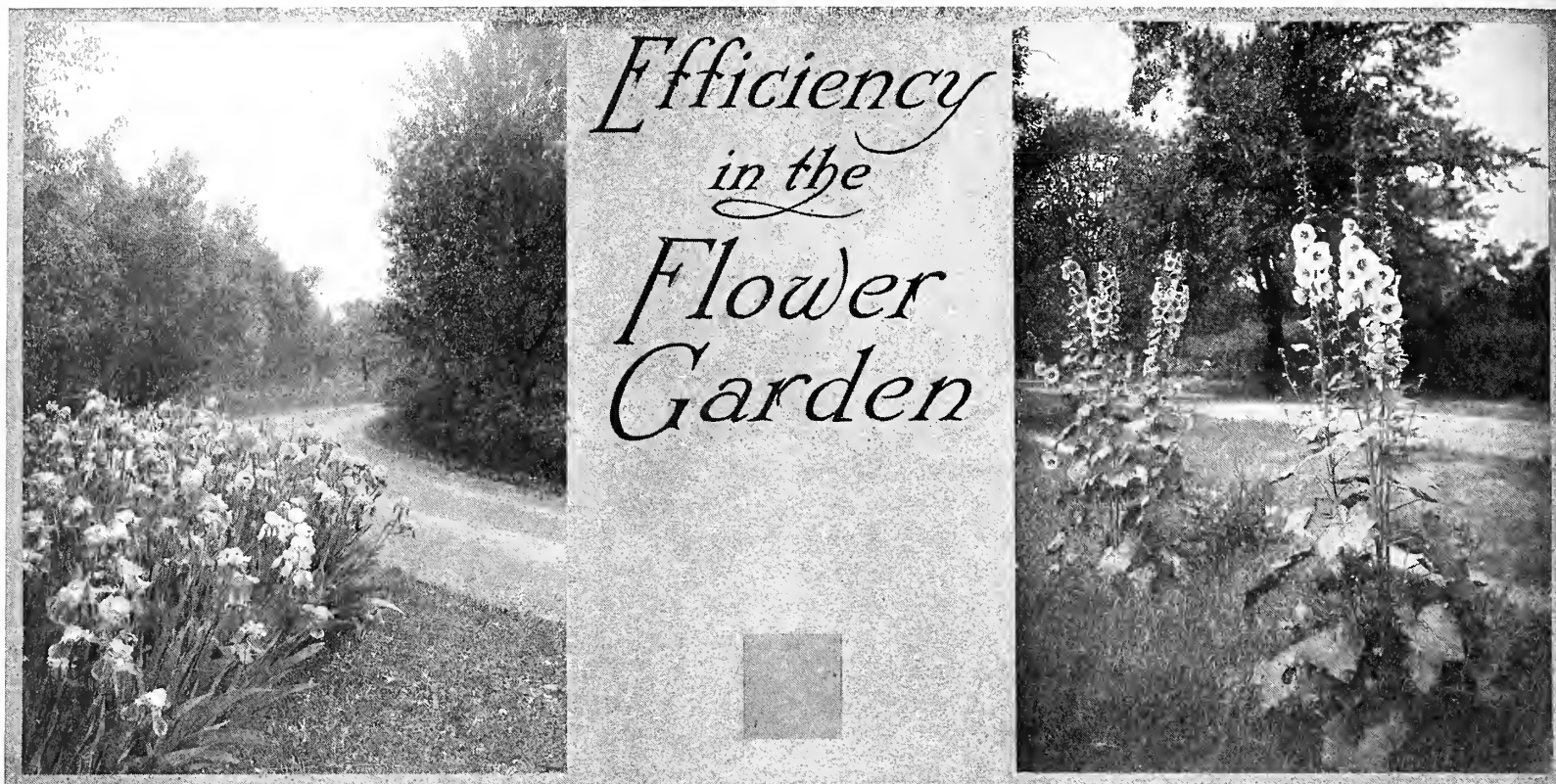
Neither the walls nor ceilings have been decorated in any way. The brazier or fireplace in the living-room is a novel feature. Both the basin and the hood of this brazier are of hammered copper, while the screen is of copper wire. It is located a little in front of the center of the room. The occupants of the room may sit on all sides of this fireplace, the sides of the basin serving as foot-rests. An important point about this brazier is that after the fire has secured a good start the hood may be raised, the upper part of the "neck" disappearing into the ceiling, thereby permitting the occupants to see one another and talk across the fire.

Both the living- and dining-rooms have 10-foot plate-glass windows, similar windows being located on either side of the sun parlor, one facing the street, the other the patio.

The family and guest bedrooms are finished in mahogany, with cut glass doorknobs and doors with full-length bevel mirrors. The family bedroom is



The most attractive feature of this many-featured living-room is the brazier. The walls here are left rough finished, the floors laid as in the dining-room, and the woodwork being eliminated to simple door and window frames



If all the effectiveness of German iris would be had, they must be given a conspicuous place—and let alone. They are easily grown

F. F. ROCKWELL

Let a row of stately hollyhocks dominate the garden in July when droughts may have withered the other blossoms. They also are easily grown

THE PLACE OF HARDY PERENNIALS—HOW TO SELECT THEM—SPRING PLANTING AND SUMMER CARE

Photographs by N. R. Graves and Chas. Jones

NOT only the arrangement of the gardener's materials, but also their selection for the particular part they are to play in the completed landscape picture, must be given the gardener's most careful attention. A class of plants suitable for one purpose may be unsuitable for another, not because of their height, color or season of bloom, but on account of their character and habit of growth. The complete, satisfying garden—and satisfaction is the final test of efficiency in flower gardening—has an appeal aside from its mere esthetic beauty. It is right that one should not fill one's garden on the "collection" principle, striving to get "one each" of everything worth having. But it is quite possible to err in the opposite direction, and, in visioning the garden solely as a work of art, to forget the cheery, fragrant, lovable flowers themselves. There is something wrong with the gardener who is content to stand at the gate and look, through eyes

BY SEASON OF BLOOM			
Beginning to Bloom in	Season of Bloom	Height	Color
March			
Blood-root	Mch.-Apr.	6 ins.	White
Wind-flower	Mch.-May	6 ins.	Blue
April			
Rock-rose	Apr.-June	6 ins.	White, purple
Daisy	Apr.-July	4-6 ins.	Various
Hardy candytuft	Apr.-May	10 ins.	White
Myosotis, everblooming ..	Apr.-June	10 ins.	Light blue
Blue-bells	Apr.-May	12 ins.	Blue
Moss pink, phlox	Apr.-June	6-15 ins.	Pink
Trilliums	Apr.-May	12-15 ins.	White, red
May			
Alyssum, saxatile	May-June	12 ins.	Golden yellow
Aquilegia	May-June	2-3 ft.	Various
Lily-of-the-valley	May-June	12 ins.	White
German iris	May-June	1½ ft.	Various
Peony	May-June	2-3 ft.	Various
June			
Anemone	June-Sept.	18 ins.	White
Columbine	June-Aug.	2-3 ft.	Golden
Astible Japonica	June-July	2 ft.	White
Campanula, Harebell	June-Sept.	8 ins.	Blue
Canterbury Bell	June	2-3 ft.	Pink
Dianthus	June-July	10 ins.	Purple
Dietamus (Gas Plant)	June	3 ft.	Orange maroon
Japanese iris	June-July	2-3 ft.	Yellow
Island poppy	June-Oct.	12 ins.	Crimson
Oriental poppy	June	2-4 ft.	Scarlet
Phlox, hardy	June	2-3 ft.	White
Spirea	June-July	3 ft.	White
Yucca	June-July	4-5 ft.	White
July			
Hollyhock	July-Sept.	5-8 ft.	Various
Chamomile	July-Nov.	1-3 ft.	Yellow
Delphinium	July-Sept.	3-4 ft.	Various
Heliopsis	July-Sept.	4 ft.	Golden
Campanula grandiflora ..	July-Sept.	3 ft.	Blue
August			
Day Lily	Aug.-Sept.	3-4 ft.	Various
Cardinal flower	Aug.-Sept.	3-4 ft.	Cardinal red
Giant Daisy	Aug.-Oct.	3-6 ft.	White
Golden Glow (Rudbeckia) ..	Aug.-Sept.	5-6 ft.	Golden yellow
Golden Rod	Aug.-Oct.	3-5 ft.	Bright yellow

half closed, after the fashion of an art critic, at the beauty of the picture presented, and who never risks soaking feet in the morning dew, or gets a hand dirty or a wrist scratched in rendering some little service, perhaps unnecessary, to the garden's inmates; who has no friendships such as one may have with a quiet but dependable companion, among the nodding faces along the well-worn walks.

No one class of flowers has all the desirable points. Some of the advantages and uses of annuals and annual-like flowers were discussed in last month's article. The paramount advantage of perennials, of course, is their longevity. Instead of having to be started afresh each year or carried over, like potted plants or tender bulbs, they are planted once and for all, and one is done with the job until overcrowding or starved soil may make it necessary to replant; a condition which will not be reached for several years, and, with some varieties,

in heavy soil, is hardly ever reached. Another advantage is their great dependability. You can count on their being in the same spot and blooming at just about the same time year after year. They include, of course, some of the most beautiful of flowers and kinds which are valuable for practically every purpose—gorgeous shows in masses, bold and dainty landscape effects, cutting for bouquets, use around rock-work and naturalistic effects. But the very fact that perennials are long-lived and regular in their season of bloom makes it doubly necessary that the greatest care should be exercised in selecting them. The results of mistakes made are not for a few weeks or a season, but for years, unless one wishes to contemplate the job of *un-making* a perennial garden, which is much more of a job than making it.

The easiest part of this rather difficult task of selecting your perennials is to find out everything there is to be found out about any particular plant. You can get this information from any good nursery catalogue or find it in more complete and convenient form in the numerous tables which have been made up, listing and classifying these data. A complete list of perennials, without going into varieties at all, would include many scores of plants of which there is not room for even a brief description here. Some of the most dependable and satisfactory are described in the accompanying table.

In selecting perennials, the first thing to decide is *when* you want them to bloom. If your hardy border is on a "summer place," to which you do not come until mid-June, there is no use in wasting good money and space on flowers that bloom in April and May; and if August must see you again packing up for the city, those glories of the late autumn garden, Japanese anemones and the hardy chrysanthemums, will not be for your enjoyment. On the other hand, if your garden is enjoyed during the Spring and Fall, but left to its own happy self-contemplation during a month or so while you are away at the seashore in mid-summer, you will miss the delphinium and campanulas in their glory. So, the first thing to decide in getting at your perennials is when you want them in bloom. Having settled this, you will find there is quite a list available. But there is another matter to settle in your own mind before you go any farther, and that is, how much *care* they are going to get after they are set out. This is a very important point. If you expect to set out your perennials and then let them take care of themselves, you will save time and disappointment in the first place by setting out only the hardiest and toughest, those capable of surviving in the struggle for existence which they will have to make. Among these are most of the native species, especially those which may be native to your own locality, and other particularly robust sorts.



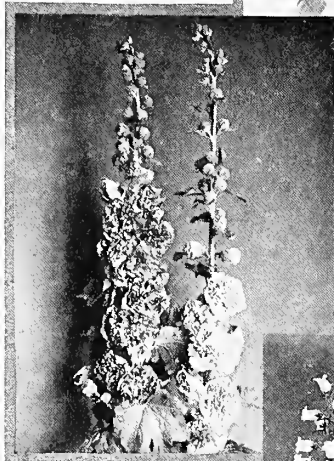
Beginning to bloom in June, anemone lasts well into September



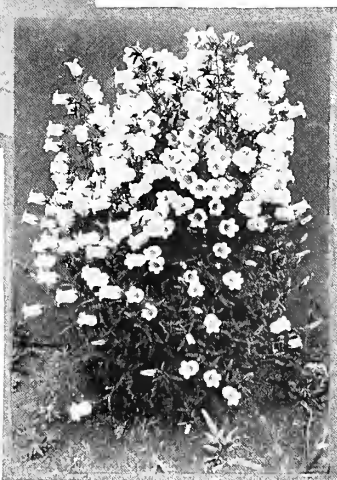
April and May see the hardy candytuft in bloom



Rudbeckia lightens up the garden in August and September



Through July and September you have the hollyhocks



The pink of the Canterbury Bell comes in June

A few of these are blood-root, trillium, aquilegia, lily-of-the-valley, iris, peony, dictamnus, yuccas, Cardinal flower, golden glow, and, for one of the least appreciated varieties of all considering the many beautiful varieties now available—the hardy asters and the native hardy lilies. If your flowers must be left to shift for themselves, your nurseryman will be glad to suggest extra hardy sorts for the conditions your garden will have to meet. Such conditions should, however, always be taken into consideration. The plants that are most tenacious, like the lily-of-the-valley, for instance, under the conditions they require, may not prove dependable in an uncongenial environment. You should plan, however, to give your hardy plants, as well as your other plants, a reasonable amount of attention.

With these matters settled, you will still have a wide field to choose from. So far the process has been one of elimination. Now it will become one of selection. In solving this problem, you should first of all consider your general garden scheme. You must picture, in your mind—if you do not want to take the trouble to do it on paper, although that is the better way—the prominent points, the high lights and shadows, so to speak, of the general plan or scheme of your place. Upon your ability to pre-visualize thus a planting effect will depend to a very great extent the efficiency of your efforts to make a beautiful place.

Among the hardy perennials are to be found many of the most striking and effective things that can be used, and the hardy border itself, particularly on a small or medium-sized place, may be the dominant feature of the whole planting arrangement.

Another thing which must be carefully thought out at first is the arrangement of the plants in regard to each other. In the mixed bed or border the taller should be kept in the background, conflicting colors should be avoided, and harmonious colors planned, and such a distribution of species and varieties that no spot will look bare at any season of the year. For this reason, a number of different plants blooming at the same time should not be placed in proximity without interspersing others which will come into bloom before or after them.

From all this it becomes evident that about the last thing you do in planning your garden of perennials is to select your plants. This may seem at first paradoxical. You would think an architect very strange, when

(Continued on page 304)



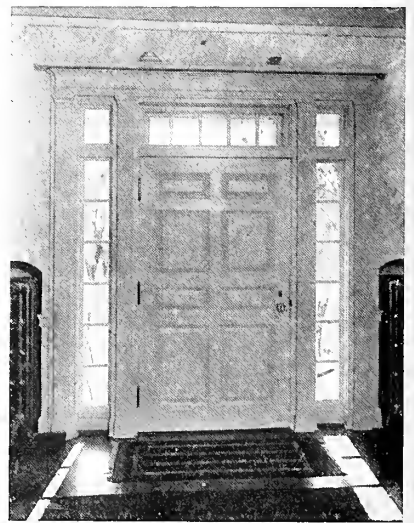
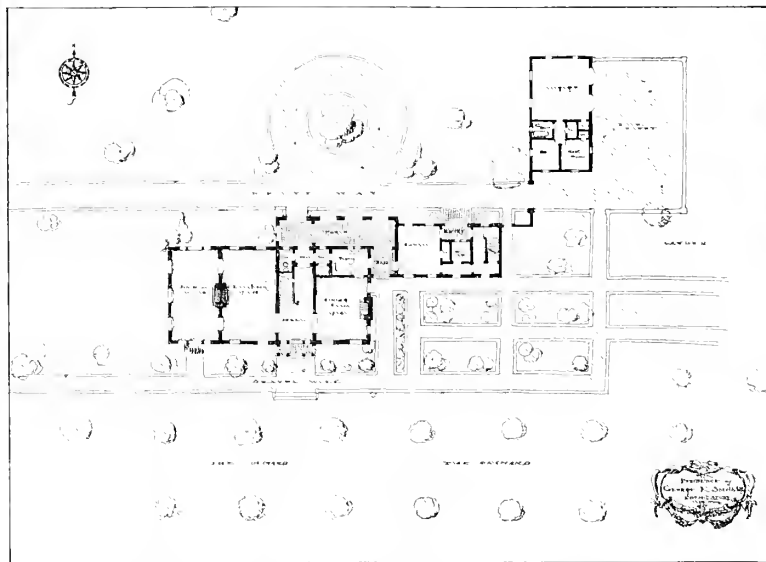
The house was set in an old orchard, with the trees forming a natural avenue up to the front door. Simplicity of line characterizes the building adapting it to its setting



A wide, paved terrace and an indented doorway give approach from the orchard to the house

THE RESIDENCE OF GEORGE K. SMITH, AT ST. LOUIS MISSOURI

Roth & Stody, architects



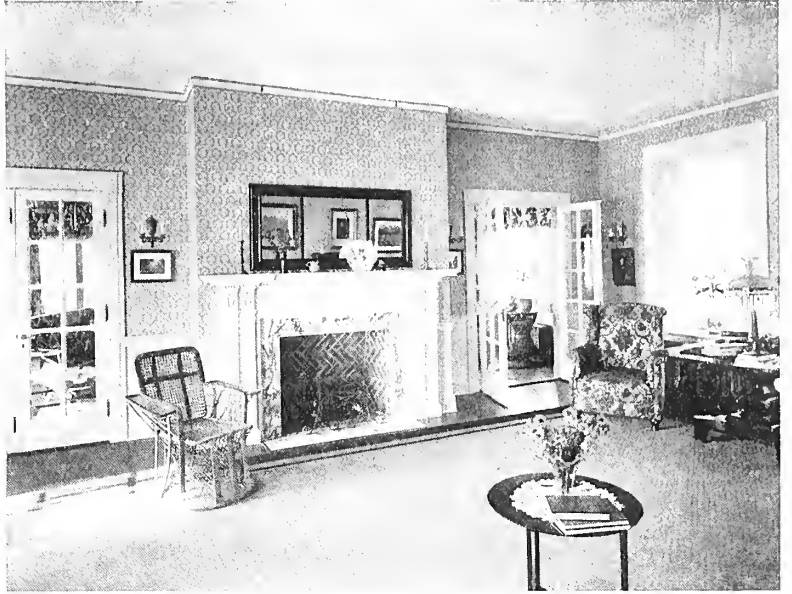
By using balanced lights around the door an old practice is put to an excellent modern use



Here are characteristics of the Colonial style—wide house-depth hallway, and the service department set in an ell by itself, leaving the living quarters a private entity



In the lower hallway the Colonial atmosphere is well expressed, the stairs being excellently proportioned



Full length glass doors between the living-room and the sun-room give to the first floor an airy atmosphere



In this house is well planned what in many others is often neglected—the upstairs hallways



With the alcove and wide spacing, there is ample room for a little work corner in the hall



The wall, shingled in like the house and garage, connects the two, tying the group into a pleasing, congruous whole, and carrying out the single direct lines to the best advantage. Note also the small bay in the angle and the roof treatment



INSIDE THE HOUSE

Timely Suggestions and
Answers to Correspondents



Good Reproductions in Brass
FORTUNATE are we that somebody recognized the beauty and utility of brass and set about reviving its use. In the scheme of artistic possibilities for the house it has its value no less than silver and crystal, though its place is totally different. Brass candlesticks are out of key on a mahogany sideboard, where silver is at home, but they may give distinctive charm on the mantel or table of the living-room.

Many hand-wrought articles are faithful reproductions of old English pieces, just as we have the samovar copied from the Russian. The corn-poppers and chestnut roasters, which are illustrated, are hand-made copies of their English forebears. They show fidelity of workmanship in the minutest detail, which is noteworthy in this commercial age, when quick work is the rule. The designer shows his interest in ancient legend by the use of Mercury wings and the serpent to compose the handle of one of the roasters. One of the symbols also appears on the perforated cover of the roaster. There are few perforations in this cover, but usually the cover is full of piercings like the sides and bottom.

The little triangular chestnut roasters are odd looking and interesting, but one rather imagines the large, round chestnut roaster or popper serving a merry party of youngsters who have just come in from a tramp in the sharp, spring air, and gathered about the blazing fire. Just before bedtime that same happy assembly will

probably lift the lovely brass toaster from its hook and over the glowing embers there will be toasted marshmallows, done to a turn, just as they were at the erstwhile college feasts. These brass toasters are wonderfully charming, some that suggest the far Orient in the design of bowl and handle; others of remarkably simple, but none the less graceful, lines. And there are warming pans like them, too, which, like the toasters, are a joy whether in use or not, because they are so decorative.

Door porters, those silent sentinels that save our nerves from slamming doors, will be welcomed when warm days tempt one to stand every door wide open. One entirely new design is the Dolphin, handsome, massive and heavy, which is illustrated, and the very opposite of this is the Colonial style, plain, but with charm, as the true Colonial always is. Between these two, the one ornate, the other severely plain, there are many designs from which to select. One that is good is a claw-foot, evidently copied from the foot of an old davenport or highboy, out of which rises a twisted rod with handle at convenient height.

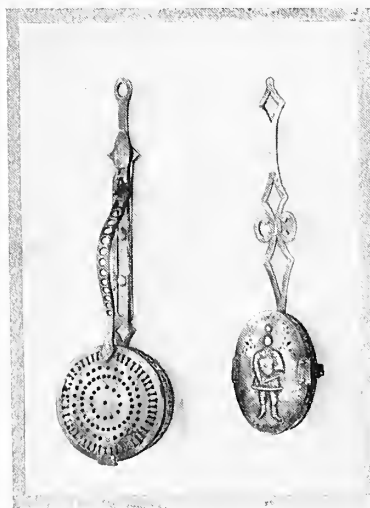
Some door-knockers that are the outcome of these tragic days are reminders of Rheims. One is a miniature façade of the Rheims Cathedral, and two others are copies of gargoyles from that historic church. They may be interesting, but they are not cheerful.

The "safety-first" slogan might have been responsible for the Cape Cod fire

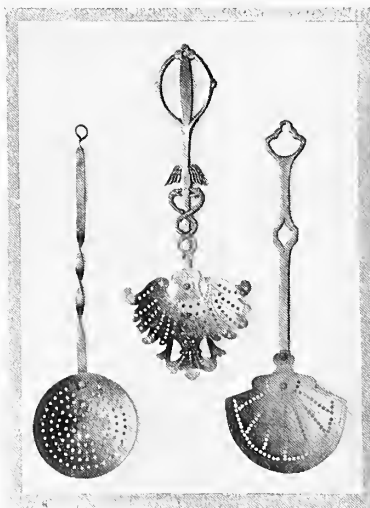
lighter, which recalls visions of Puritan New England. It reduces fire building to a feat of magic by its working, not to mention the quaint beauty of the device. There is a ball of absorbent stone clasped to a wire handle, and this stands in kerosene, which is held in the brass container. The kerosene-soaked stone is thrust under the coal or wood, the match applied, and a quick fire is the result. No kindling or paper is needed. It is a blessing to the man who builds the furnace fire in winter and to mountain campers, who often need fires on chill summer evenings.

Let not the thought of keeping one's brasses in order be a hindrance to their possession. Brass is more easily kept burnished and shining than silver, yet the care of silver deters no woman from owning as much sterling and fine plate as her means will allow. Our grandmothers were wont to keep their brass preserving kettles shining like virgin gold through a liberal use of vinegar and salt, which removed every particle of tarnish. Nowadays there are all sorts of metal polishes that do the work, but when none is convenient try rottenstone and oil. Any cottonseed oil product is good for this, and is inexpensive.

I admit a leaning to the use of rottenstone and oil for cleaning brass. It produces such a rich, deep golden yellow that I use it on my grandmother's brass kettle. No, I don't make preserves in dear grandmother's brass kettle in this day of porcelain and aluminum. But I hold such happy memories of scraping that jam ket-



The old chestnut roasters have been faithfully reproduced even to the crudities of workmanship



Nothing more than the utilitarian strainer, fashioned after the old pattern, with a semblance of artistry



Toasters and fire irons of rich old patterns are as serviceable as they are decorative



A product of "safety first"—a fire starter, with a stone torch to soak in oil

tle and licking up every morsel of sweetness, back in a far-distant childhood, that I greatly prize the old-time utensil.

When it came into my possession I pondered a long time before I decided how I could use it. Finally an idea came. I took the kettle to a worker in brass down in Allen street, had him remove the old handle and rivet a plain drop handle on each side. Then he mounted the kettle on three plain balls, which serve as feet, and I had a jardiniere of unusual design and lineage. When once you know its history you quickly see there's no disguise attempted. It's the old-fashioned kettle, transformed, it's true, now holding a date palm in the hallway instead of jam on the kitchen range.

Who has not had difficulty in getting a good arrangement of handsome flowers which have straight, stiff stems such as gorgeous tulips, lovely jonquils and narcissus? A low glass flower holder, a hemisphere in shape, solves the problem. By using it stiff flowers may be displayed in a mass for table or other decoration, with each blossom standing separate and distinct. This holder is on the same principle as the small ones which hold only one or two sprays. But the spherical shape, full of places for the stems, hold and at the same time give form to the mass of blossoms.

An Old Problem Solved

GRANDFATHER, descending the stairs on a cold winter morning, hurries to the living-room for a glimpse of the morning paper. But it is already in the hands of other members of the family. "I just wanted to know how cold it was last night," pipes grandmother, pouring over the weather column; "but it doesn't seem to tell here." "I wish one *could* tell what the temperature is at night," complains sister Mary, examining her bulbs in the window box. The small brother wonders if the pond is frozen so that he can skate on it—and the man of

the house falls into an amiable dispute with his helpmeet as to the advisability of wearing rubbers, the question devolving upon the condition of the streets—whether frozen or not.

These domestic uncertainties would be



Of the many door knockers being shown few are more genuinely artistic than this of the satyr and the crab. George L. Lober was the artist

impossible were this particular family the possessors of a regulating thermometer. For use indoors and out, its value far exceeds its price, in the mental satisfaction it gives in determining past and present temperatures. For this little instrument not only records the weather conditions (so far as the temperature goes) of the moment, but also the lowest and highest temperatures touched by the mercury in a previous given period. The mechanism of this "scientific toy" is so simple that the proverbial child can set it in action. In appearance it resembles the ordinary glass thermometer for use on a window. Instead of one tube, containing the mercury, it has two—one for registering the greatest degree of heat, the other for the greatest degree of cold. In each tube is a small bar of steel, placed above the mercury. Controlling this bar by means of a magnet (which is provided with the thermometer without extra charge) it can be moved up and down in the tube at will. For determining the lowest temperature during a cold night, for instance, one moves the steel bar—in the tube for recording cold—down to where the mercury is at that time. The thermometer is then placed outside the window, or in the conservatory, or wherever the test is to be made. As it grows colder the mercury rises (instead of dropping, as in ordinary instruments), pushing the steel upward as it does so, till the extreme point is reached. When temperature becomes warmer as morning approaches, the mercury falls, leaving the

steel, however, at the point touched during the extreme cold. By a glance at the thermometer it is seen at once just exactly how cold the night has been, or, to be accurate, what has been the lowest temperature reached during the night. In the same way, one may ascertain the greatest heat of a summer day, when the mercury is supposed to make a marked rise, say in the middle of the day, when the sun is highest. This is recorded in the other tube, in which the mercury rises to the extreme of heat. The thermometer, at a moderate price, will be found indispensable to the average household, for use in the house, on the porch, or in the care of indoor plants.

Warming Facilities for the Kitchen

AN important problem in the kitchen is that of keeping food warm and warming dishes that are to be used on the table. This is a very simple matter in a coal kitchen. The best coal ranges are equipped with good warming shelves. Where the warming shelves are not provided, as in the case of a cheaper range, it is possible to have a tinsmith make a serviceable substitute of japanned iron, which can be placed above the stove at a convenient height. These iron shelves should have round holes cut through for ventilation, and may be supported against the wall by means of brackets.

In a gas kitchen this matter of warming-shelves presents much greater difficulty and requires more thought. With the gas stove we have no longer a constant radiation of warm air which can be utilized not only for the purposes named above, but for raising bread and drying the kitchen-ware. These needs must now be provided for in some other way.

The larger gas ranges have a warming oven above the elevated baking oven, which is kept hot by the oven burner when the latter is in use. At other times the

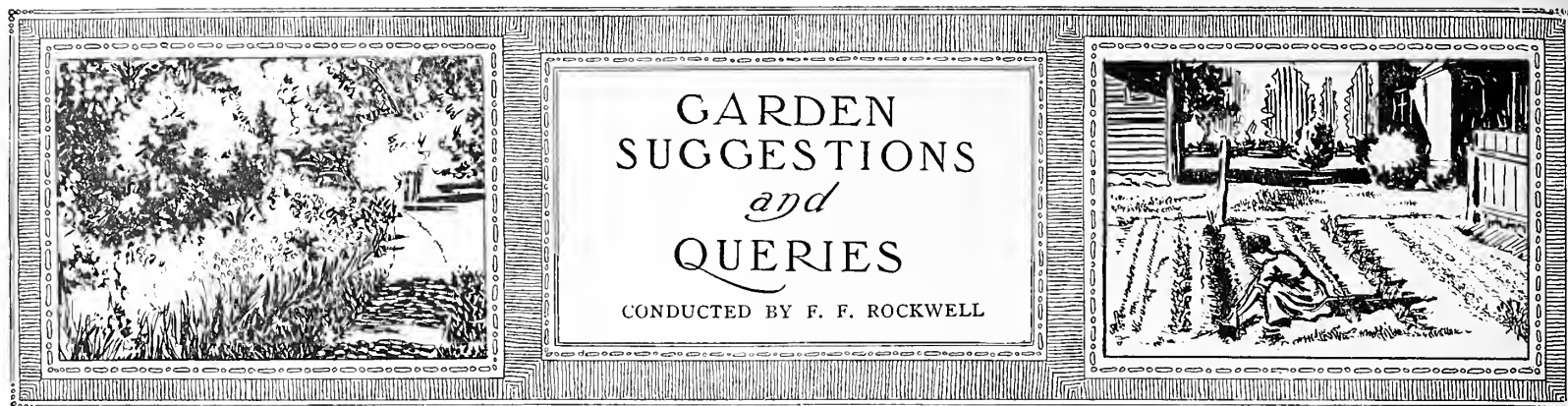
(Continued on page 312)



Door porters are being made in a number of patterns that have an enhancing charm



For a Colonial room come these porters of less elaborate and obtrusive design



April, 1915

APRIL is the gardener's month of months. In it he can do almost everything in the way of planting. Or, to put it more correctly, he *may* do almost everything. What he can do is limited by his time. I doubt if there ever was a gardener who, on the first of May, could look back and feel that he had done everything he would have liked to do in April. On the other hand, the temptation to start too much proves fatal to many gardeners. For beginners it is a veritable mad moon. The beginner does not realize that with a modern seed-drill you can plant more in thirty minutes than you can take care of, when it comes to weeding, in a day. So, when you begin your planting, especially in the vegetable garden, be sure to figure up before you begin operations—if you have not already made a garden plan, as you should have done—exactly how many of this, that, and the other you think it will require to supply your table, and don't put in more.

The vegetables that can be planted out

of doors this month are beets, carrots, corn salad, endive, kohlrabi, onions, parsnips, parsley, peas, potatoes, salsify, spinach, Swiss chard and turnips.

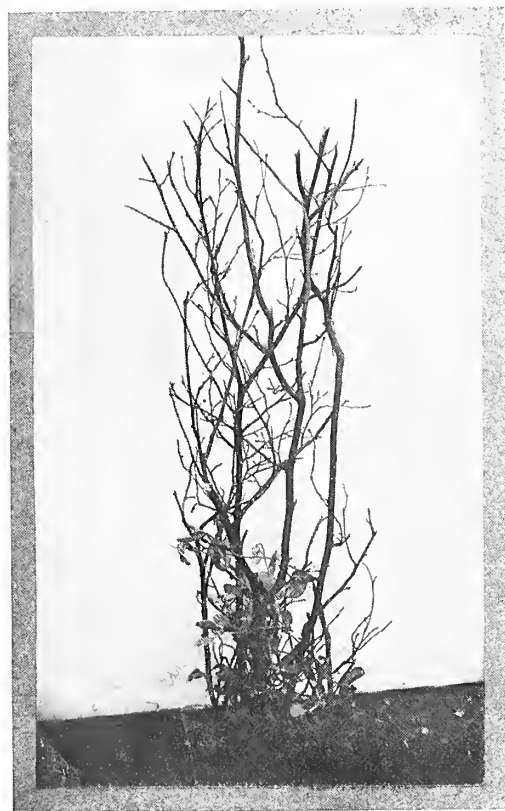
Plants that can be set out are cabbage, cauliflower, onions, lettuce, beets, sprouted potatoes.

Seeds to sow for plants to transplant later on: Cabbage, cauliflower, lettuce, celery, leek, endive; and asparagus, rhubarb, and sea-kale to make plants for setting in permanent beds next spring.

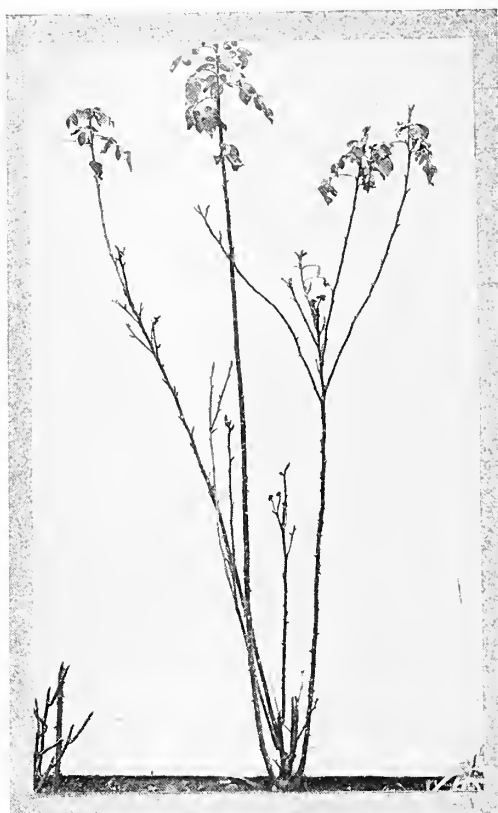
In the rush of your outside planting,

WORK ABOUT THE GROUNDS

Don't let your vegetable garden monopolize all of your time. In fact, during the earlier part of the month there will be



If flattened between boards, the brush for peas will go farther and make a neater garden



When roses have become scrawny, as has this dwarf rose, they should be cut back, as in the accompanying illustration

however, do not overlook the frames in which the plants to be set out early next month are coming along. These should be repotted, and, for extra fine specimens, put into flower or paper pots. They should receive every attention in the way of watering and care. During this month, especially as the weather begins to get settled, they should be given full air and sunshine daily, the sash being removed altogether.



The cut should be made just above an outside bud, so that the growth will be outward

many days when it will be comfortable to work outdoors, when conditions are not right for seed sowing. These should be utilized for continuing the work which was begun last month, and doing your regular spring cleaning, getting the place "licked into shape."

Carefully rake off the lawn, putting the refuse mulching away, if you do not need it in the vegetable garden, where it can be used later around gooseberries, currants, and other things benefited by a summer mulch. If there are bad spots in the lawn you can probably find a nice-looking piece of sod for patching. If not, there will probably be some florist or gardener doing work in your vicinity from whom you can get a wheelbarrow or two of sod. The small, bare spots should be raked with an iron-toothed rake and grass seed applied and patted down with the back of

the spade. Be sure, in any case, to get the winter mulch off before the grass begins to make any growth.

If roads and paths are inclined to get grassy or weedy, now is the time to give them a good scraping with the hoe or scuffle-hoe. Make use of the "edger" for trimming up the roads and walks, but don't overdo it—it is very easy to cut



Potatoes started in sand at this time have every chance to become strong, healthy plants

back too far into the sod, making an edge that will dry out quickly, and looks amateurish.

WORK FOR A COLD DAY

It is a good scheme to plan work as much as possible for cold days. One can be quite comfortable chopping pea brush or taking more or less violent exercise with hammer and saw on a day that would be decidedly uncomfortable for setting out plants, and vice versa. Get your pea brush early. If it is quite near at hand and you expect to carry it yourself you will find that a piece of rope fifteen feet long will furnish a better means of transportation than the wheel-barrow. You will find that the brush is of much neater appearance and handier to handle if you get it long before you want to use it and lay it in a long, narrow pile on the top of which a few heavy fence posts or plank are placed. These will press it out flat, with the result that you will have much neater-looking rows and your brush will go farther.

Roses and climbing vines trained against the house should always be supplied with trellises that will hold them out a foot or so from the wall. This is better for the plants and also for the house. Where the vine grows directly against the wall, unless it is of brick, it will at least disfigure it and possibly cause decay to set in by rotting and rubbing off the paint and by keeping out the anti-rotting influences of air and sunshine. The form of trellis will depend largely upon the vine which is to be grown. If it is a real climber, making use of tendrils or a twisting stem, the cross pieces on the trellis should not be very far apart, and

the trellis should be comparatively broad and flat. For climbing roses and plants of similar habit of growth, all that is needed is a rugged support to which the strong-growing canes can be fastened in any desired position, or through which they may be trained. Frequently, especially for the annual climbing vines, strings are used as supports. This makes a cheap and easy method of vine training, but it usually breaks down before the season is over. If you must use strings, get a heavy, brown jute or hemp, or ordinary "binder twine," instead of the white, "store string" which one so often sees. It is much stronger and infinitely better looking.

If you haven't finished all your pruning and tree-repairing, that will make a good job for the colder days. One can get a good deal of exercise digging out old pruning wounds that have rotted back a foot or two into the limb or trunk. Clean out to firm, live wood, paint with creosote or tar, and, any time when there is no danger of a frosty night, fill with concrete.

A SPECIAL BED FOR SEEDLINGS AND RADISHES

Beside the vegetables mentioned above, to be started now for plants to transplant later, a number of flower seeds give earlier and better results when handled in this way. Among these are asters, antirrhinum, carnations, dianthus, kochia, petunias, salpiglossis, stock, verbenas and zinnias. A small packet of each of these will furnish a supply of nice, stocky little plants to put in the garden, not as early as those you would have from a greenhouse, but ahead of seeds sown in the ordinary way in the garden.

Radishes sown in the usual way in the garden are almost always put in in too

large quantities, and are not sown frequently enough. Besides this, the soil should be especially prepared for them. For all these reasons, it is a good plan to make a bed in some sheltered spot for starting these seedling plants and for growing your radishes, where the watering, the thinning, and so forth, can be regularly attended to. A couple of short rows may be put in regularly once a week—say every Saturday afternoon. To make such a bed, dig up a place some 6 feet wide and 10 feet long (the dimensions can be varied according to your requirements). Dig up the top soil for 4 to 6" deep, put in a layer of rough cinders and put the soil back—a little bone dust or wood ashes may be put with it, but avoid manure—especially for the radishes. A row of brick around this bed, set on edge, will hold it in place and will give it a neat appearance. The end of the bed to be devoted to radishes should receive a very heavy dressing of lime. Cover the ground thick; use raw, ground limestone, unless it is some time in advance of planting, when other forms can be used.

SET OUT NEW BEDS OF ASPARAGUS, RHUBARB AND STRAWBERRIES

April is the month, and the earlier in April the better, to make your new plantings of rhubarb, asparagus and strawberries. There are a good many kinds of asparagus listed by the seedsmen, but the listing is about as far as the difference goes, except for two or three varieties—Palmetto, Barr's Mammoth and Giant Argentine. As the asparagus bed is made for a long time, fifteen or twenty years, if you take care of it, it pays to prepare it thoroughly in the beginning. The rows may be made 3 or 4 feet apart. After marking them out, dig out a trench along

(Continued on page 300)



The trellis should be permanent if roses are to be trained on it. Plain, straight bars of iron arranged in this fashion are simple and effective



EDITORIAL



OF GARDENERS

WE must acknowledge in the beginning that gardening is not for everyone. Although with each recurring spring there comes to all the desire to touch and handle and be one with the soil, not to all is vouchsafed the patience that watches the plant struggle up to fruition. In the heart of everyone, it would seem, the seed of garden love has been planted. We can never cease to love a garden, albeit we may have never loved gardening. The two differ, and have to do with different spheres. The love of a garden is akin to the appreciation of anything lovely—we may look upon a flower with the same rapture that we see a picture or listen to music. The love of gardening, on the other hand, is an expression of the love of life. The two may be co-ordinated, but the presence of the one does not necessarily connote the presence of the other, for the love of a garden is a condition of *being*, sired by heritage and reared by education; the love of gardening, a constant state of *becoming* that knows no parent nor instruction.

Because of this difference, the genus gardener is a type that runs through all sorts and conditions of men—a golden thread wound in and out the varied woof of humankind.

Could one visualize all the gardeners of the world foregathered, one would see such a motley as had never before been assembled: bankers and laborers, unlettered men and scholars, sinners and saints. Charney, the prisoner of Fenestrella, whose captivity was lightened by *la povera picciola*, would stand beside the poor, little man of Assisi, who so loved flowers that he preached to them. Walpole would be there, and Pope and Chaucer. Burns would come, and Bacon, and with them Browning, who sang "the soft, meandering Spanish name" of roses. There would be Nero and Sir Henry Wotton, Addison and Montesquieu, the Jesuit Attiret and the German Prince Pückler, Peré Huet and Dufresny, Canon Hole and Benedetto Croce and Richard Jeffries. And one would almost dare to think that Another Presence would attend ("and they all rise up as He passes by!")—He of whom it is said that He planted a garden eastward.



By many indications can you tell the gardener. He has a mellowness, an urbanity. He is a cosmopolite, though of cities other than those in which men dwell, and his acquaintance is with folk of an order different from mankind. He is usually a meek man, for his comrade in work is the worm that helps him plow the soil; he is usually an industrious man, for he labors in season and out of season with things that know no respite day or night. There are triumphs in his life: he can look upon a perfect flower. There are also defeats and sorrows, for wind and winter and drought and pest are leagued against him.

In whatever walk of life you find him, the gardener will prove a man in whom is active the vital forces of poetry. He is a poet, making rhythms of color and growth, planting for succession of bloom, just as a poet sings the refrains of his triolets.

He is, moreover, a radical, as have been all great poets. By intricate and secretive ways he strives to turn aside from the paths of the accepted varieties and eternally is he seeking out the new types that will set the old at naught, ever finding new methods of plant culture that will revolutionize the old. One can never say that his life is unromantic or commonplace, for each new bud may prove a new kind, and these inexplicable vagaries of Nature

lead him into new worlds and set his feet upon paths that no man has ever trod.

Revolutionary, fickle, undependable Nature! Only a fool or a blind man would say that you obey your own laws or ever do a thing twice in the same fashion. Every rose is a new creation, unlike those that have gone before or will come after. Every plant is the beginning of a new history. Little wonder that he who works with you as guide leads a romantic life!



The good gardener may not be a profound philosopher, but one will have to travel a great distance before he finds a body of men and women who are more innately philosophic than gardeners. The reasons are obvious: they have ample time to think, and they consequently gather the fruits of solitude; they work with fundamental verities, such as the dust from which we are sprung. Moreover, being initiated into a life and a companionship different from that of the mercantile world, or even the world of books, they are led far afield by problems of which the average man knows little. The very fact that they can create new varieties leads them to speculate on the reasons why they can. And the deeper they delve into the universe of plant life, the more complex grow the problems. Perhaps it is awe that makes the gardener a silent man, even as that silence makes him a philosopher.

To be a questioner in the garden is no far cry from being a believer, and taken, man for man, there is more acute perception of the Divine in Nature among gardeners than in many another walk; there is more of that rich, unresting life which characterizes those to whom mystic sight and speech are as a native tongue. The Light does not shine uncomprehended in darkness when it shines in a garden. For it would seem that gardeners know the wisdom of Plato's observation, that "the true order of going is to use the beauties of Earth as steps along which one mounts upwards for the sake of that other Beauty."

Nature reveals little of her secret to those who only look and listen with the outward ear and eye, and the gardener, whom she takes into her confidence, soon learns that seeing and hearing in that world lie in a peculiar attitude of his whole personality, a self-forgetting attentiveness, a profound concentration, a self-merging which creates a real communion between the seer and the seen. Only under such conditions do the things of his world surrender their secrets, only under such does he enter into their lives. The true gardener, then, is a mystic. What the mystic calls the Real he finds in his garden where he perceives the Divine in Nature, where heart speaks to heart and in a tongue not understood of men.

Such is some of the true inwardness of those men and women we see grubbing in the dirt of their gardens these days. Blind are we if we perceive not the gold in the dirt upon their hands, if in their taciturn methods we read not the speech of other worlds, if in their naïve words and simple pleasures we see not the light of mighty discovery and ineffable joy. Because the things of their lives are reflections of eternal things, gardening transcends wavering popularity. It is the expression of an ageless instinct. The gardener is at once a survival more ancient than the Pyramids and a creation as fresh as to-morrow's light.

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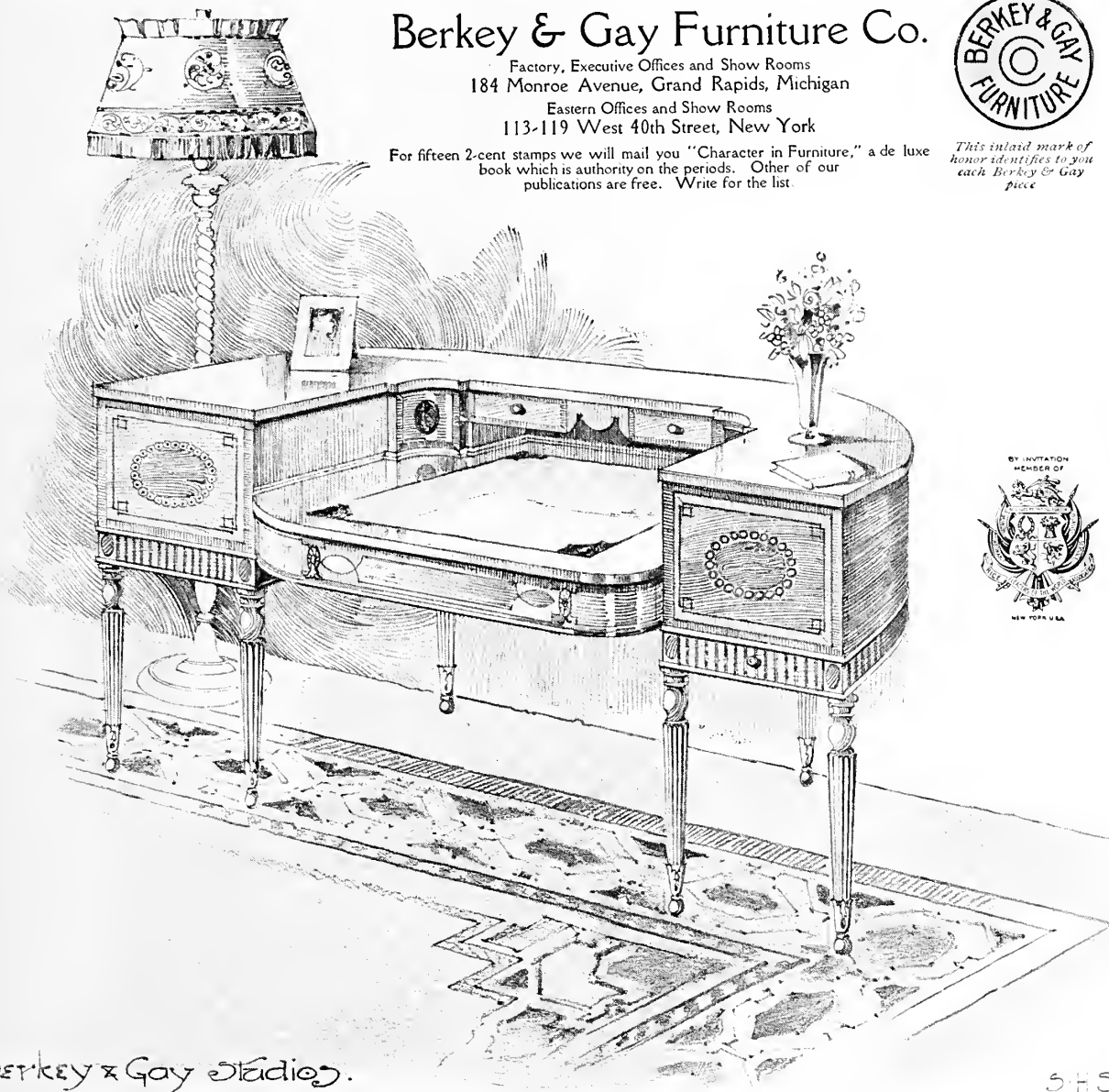
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My Suburban Garden

(Continued from page 248)

ripened for the table. The strawberries were something phenomenal, but there were only enough for picking three times a week. For a family of five, at least two hundred plants are needed, and three hundred is better for a surplus for winter preserving. The robins gave us a good deal of trouble and ate at least half of our berries. Either lines of rag scares or else some of those French garden windmills with looking-glass flashers on their arms are needed to scare off birds. We had a family of cats, but they did not seem to be on their job.

I had two canoes and a motor boat to paint and put into the lake, and a swim in the ocean to take every day, so that, aside from fighting weeds occasionally, garden operations in July were not very irksome. The hotframe glasses were stored away and the frame itself planted with young bush melon plants. With heat above and below, they thrived mightily and set a lot of fruit, but neither here nor in the main garden did the melons do well. They rotted on the under side, while the whole fruit was still yet unripe. Next year I tried a patch of excelsior under each fruit, with good results.

July also brought a horde of plant lice on rose bushes, pear trees and grapes. These are a regular institution, as are black fleas and bugs on the potatoes, so we got after them with a brass sprayer loaded with kerosene emulsion and whale-oil soap. Also Bordeaux mixture for the fruit trees, following the regular spraying tables. It does not do to neglect these things nor to bewail your fate if the insects chew up your leaves, suck out the sap and create general havoc and desolation. A thorough spraying in a small garden like this one takes but an hour, and should be done every two weeks. The insects will tell you if it is not done often or thoroughly enough.

In August we had early corn, lima beans, plenty of little, tender carrots, young beets, turnips, stringless beans, peas and the last of the spinach. New plantings were always going on of lettuce, radishes, peas and stringless beans, of which I made a long, 75-foot border on the rear traverse path over the drain. This border yielded plenty of beans, but was a nuisance from the tendency of the bean plants to fall over into the path. It will not be repeated. Another border, of nasturtiums on each side of the main path, was a howling success. "Partner" put it in and drew from it an endless succession of nasturtium blooms until late December. Indeed, our floral display was beginning to attract notice. The wall of dahlias had done their duty right manfully, and were now filling the gaps between the peach trees, with a topping of wonderfully variegated blooms — scarlets, maroons, lavenders, whites, yellows—a sight to behold! The

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PENNSYLVANIA

front border of pansies had been another delight all through June, and still had blossoms until August, though in not such profusion.

We now had more time for the æsthetic features that every well-designed garden should have—rose arches, a back trellis, rose and grape trellisses. He who would be a gardener must also be somewhat of a carpenter, unless he is one of those unfortunate creatures who "have" things done for them by the mere act of waving a five-dollar bill about in the air. Such rob themselves of their rightful pleasures as much as if they hired an Italian to run their garden for them. Both double and single hairpin rose arches are easy to make. You need some $\frac{3}{4}$ " x $\frac{7}{8}$ " yellow pine stock sixteen feet long, straight-grained and free from knots and checks, also "dressed four sides," a mill term, meaning planed smooth on all sides. Beginning at the middle of your stick, saw cuts for $2\frac{1}{2}$ feet each way three-quarters through the wood, making a cut at every inch. The stick will now bend readily into an arch about three feet wide without requiring steaming. Put the feet about a foot into the ground and paint white or green, according to the color scheme of your garden. To make a double arch, plant two hairpins about a foot apart, side by side, and join with cross pieces at every foot around the arch and up both sides. These cross pieces ought to be about twenty inches long to give a pretty overlap, and must be screwed in place, as the arch will not stand much nailing. We put a double arch at the garden gate and single arches at ends of paths, etc., growing a pair of rambler roses over each arch and using both Dorothy Perkins and Crimson Rambler roses.

For rose and grape trellises on the walls of the house I used $1\frac{3}{8}$ " x $1\frac{3}{8}$ " yellow pine stock, making various forms of vertical and horizontal ladder trellisses, up-rights and horizontals being about two feet six inches apart. The whole east wall of the house is now covered with Dorothy Perkins (pink), Crimson (red), and Philadelphia (large red) ramblers, besides four Niagara white grape vines, which have grown twenty feet long since planting two years ago.

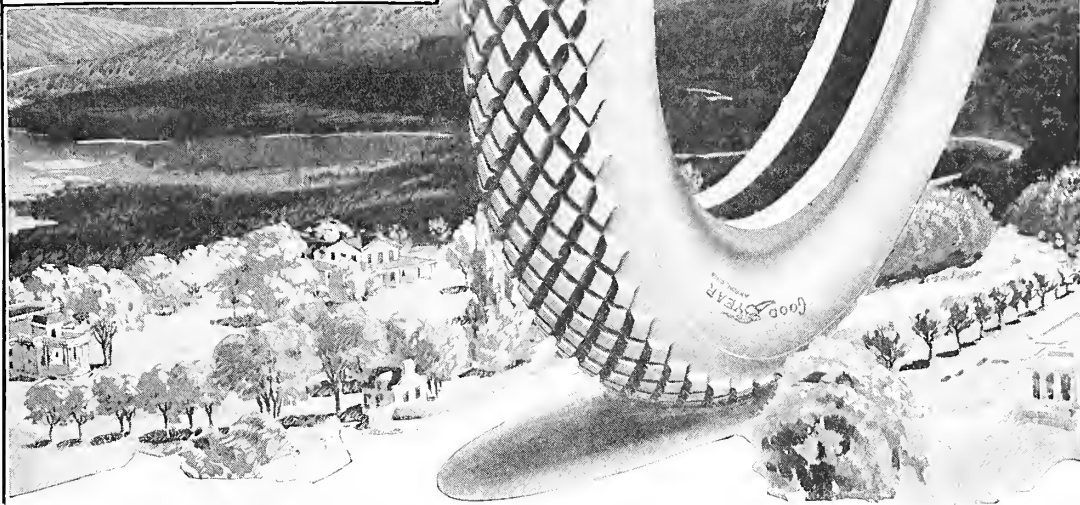
We used up a lot of this square stock in the tomato and grape trellisses and for dahlia stakes. Starting with nine dahlia roots (a tuber like a sweet potato) the first year, we dug up a peach basket full of them at the end of the season, enough to fill, by dividing the clusters of tubers, the five 10-foot beds between the peach trees. At the end of the next season, in the Great December Dahlia Digging, we had over a bushel of them, and had to clear more land to find a place for the "dam-dahlias".

Now, every dahlia needs its own stake or it will tumble over and be a disgrace at the first severe thunderstorm, so, at ten cents a stake, as bought from the florist's, the increase in our dahlias bade fair to bankrupt the establishment. We took

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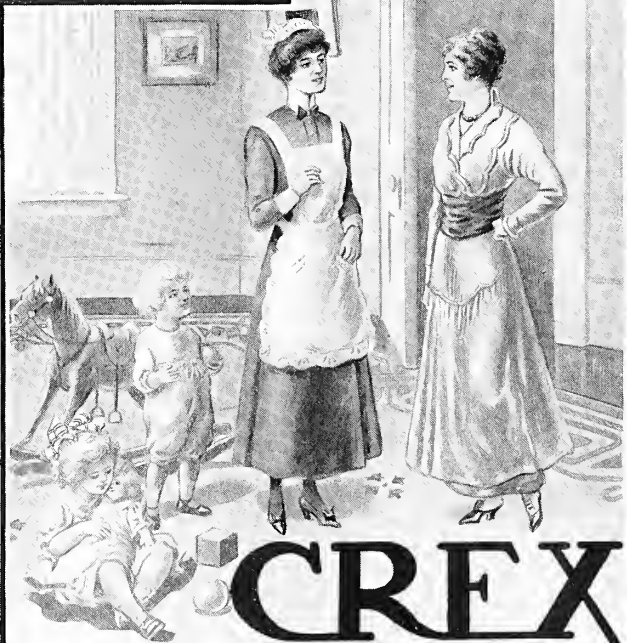
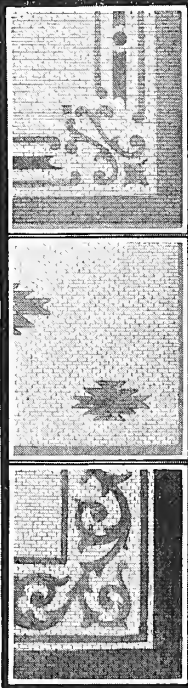
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refuge in stakes made from 1" mill stock, four feet long and driven into the tath a foot.

My back fence cost \$22 for five fifteen-foot bays, including posts and paint. It was, in effect, an open lattice, 8" x 18", with a 12" foot-board and a 4" top running-board. The posts were 4" x 4", 8 feet long, 1½ feet in the ground, and the lattice ¾" x 1¼", nailed to an interior frame 1" cove moulding. I wanted an ornamental background for the garden, something to grow roses on and set off my currant bushes, something to differentiate the garden from the wall of forest behind it. The photographs tell about how we succeeded. I fussed with it odd times during September and finished it in three afternoons' work, besides a number of morning hours before business.

The garden that had been a flat fizzle the year before turned out a screaming success this year, even with none of its fruit trees bearing, except a few raspberry stalks. The 10 to 4 o'clock sunlight was just right, indeed many people build a windbreak on the north and west sides of a garden to shut off north winds and afternoon sun, that scorching heat that wilts plants around 4 o'clock when the summer day is hottest. I had proved that my problem was a soil and drainage one; that I had plenty of sun, enough to grow anything; and a trip across the State in May and September showed that I was ahead of the average farm truck garden—few, indeed, could show corn eight feet high in mid-July! So I began to cast longing eyes at my remaining uncleared forest land, and smoked many pipes in the woods on the site of the future barn and chicken house, the green-house that I had promised myself for twenty years, and the pergolas which would flank it, covered with Delaware and Concord grapes.

The principal trouble with my garden for this season had been that there was not enough of anything. It had turned in about \$130 worth of green groceries in six months, but we had put up nothing for the winter—no preserves, no winter vegetables, no green vegetables salted down in crocks in the good, old way. I wanted more land, and before leaving for my annual hunting trip in the West, late in September I engaged a laborer to take out all the blazed trees on a strip of forest to the west, and to grub up all the roots and bushes on it.

Editor's Note.—The reader who followed Mr. Miller's work in the March issue of HOUSE AND GARDEN, and who has read this record of the second year, will learn a secret about gardening—that success is rarely attained the first season, especially by the amateur. A garden is a gilt-edge bond, but Nature doesn't pay a big dividend the first year, nor sometimes even the second, but when she pays, she pays well.

The New George Dickson Rose

is a marvel of velvety black-crimson. Backs of petals heavily veined with deep maroon. It's the

Winner of the Gold Medal

of the National Rose Society of England and guaranteed by us to grow and bloom. Delightfully scented. 1-year size, 50c., 2-year size, \$1.00; postpaid. Should bloom the first season. One of nearly 400 C. & J. varieties. This season's stock the largest and choicest ever offered. Our 1915 Rose Guide is free. Has 85 illustrations—19 in color. Our Book, "How to Grow Roses," 10c. Price includes a 25c. coupon good on first \$1.00 order. Write now, for planting time will soon be here.

The CONARD & Jones Co.
Rose Specialists Over 50 Years' Experience
Box 126 West Grove, Pa.

Landscape Gardening on a Small Place

(Continued from page 257)

pink annual *phlox Drummondii* continues to bloom late into aster time, and calendulas are still fresh when the last chrysanthemum has faded.

Succession of bloom, color harmony and arrangement are subtly interwoven. Thus analyzed it illustrates the difficulties and pleasures in designing the perfect garden. It makes clear the reason for many failures, the source of many delights in garden making.

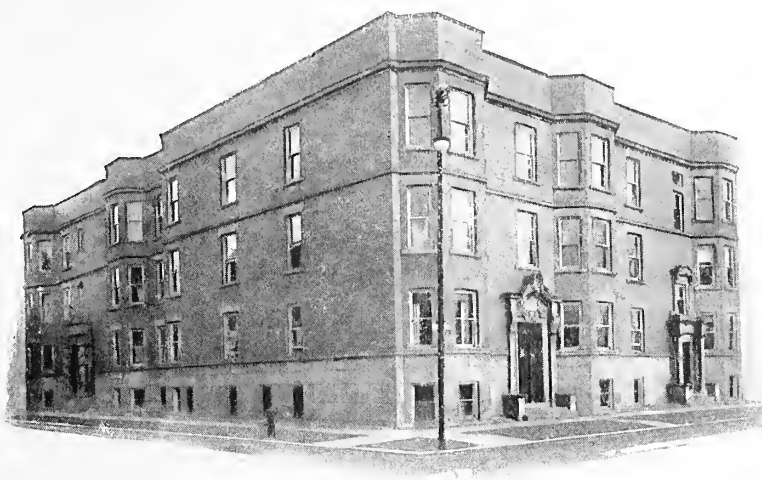
It is as easy to enumerate the flowers planted in the garden as it is hard to describe the elusive effects that are attained. It is as simple to explain the underlying principles of the garden's composition as it is difficult to analyze its charm.

A flower garden is a transitory, evanescent thing. Without constant, patient and intelligent care the whole charm of a garden like this one, dependent on so many interrelated details, is lost in a year's time. This garden has the monthly supervision of the designer. This means not only that she can see that it is kept up to the color scheme and arrangement as she devised it; that she can foretell and forewarn lapses of bloom, winter failures and seasonal mishaps, but that she can rearrange and complete, substitute and devise new color effects in minor details which will give new interest to the garden without disturbing its old vigor and its stable, constant arrangement.

The oval is box bordered, and then girt by a ten-foot wide strip of gravel. Although the plan of the entire layout had been carefully studied beforehand, we had been, throughout the long and minute inspection of the garden, altogether unconscious of the fact that this gravel strip was the turn-around. A turn-around is so much a matter for practical consideration, a flower garden is so much a striving for an ideal, that the two seem antagonistic. The harmonizing of these two opposing factors strikes not only a clever and original note in garden composition, but shows a serious understanding of garden art.

Laundry yards are even more incongruous to flower gardens. With only a little space available, the vine-clad lattice screen and groups of *Arborvitæ* trees hide the close proximity of drying linens which, no matter how fresh and clean, are not in harmony with flower gardens.

In developing the principal feature of a place there is often a possibility of combining with it a number of secluded scenes of a special character. Attached to the side of this wide, shallow lot is a narrow strip of sloping land which lends itself to such use. Subordinated to the main garden it must still be related to it. One of its long paths is a continuation of the longer axis of the main garden. The



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¶ This is the way the saving was figured:

¶ The Kewanee Smokeless burned during December 1914 a daily average of 1400 pounds of coal, costing \$4.50 per ton. A coal cost of \$3.15 daily or \$756.00 for the entire heating season of 240 days.

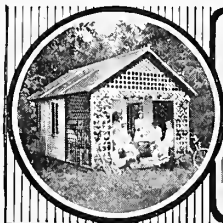
¶ Another boiler, which was formerly used in the same building for heating 15 of the present 21 apartments, used during December 1913, 2170 pounds of coal daily, costing \$4.50 per ton. A coal cost of \$4.88 daily. Figuring that the other make of boiler would heat the 21 apartments at the same proportionate cost, the cost of heating the 21 apartments with the other boiler would be \$6.83 daily—or \$1,639.20 for the heating season of 240 days.

¶ This shows a saving with the Kewanee Smokeless of \$3.68 per day or \$883.20 in a heating season of 240 days.

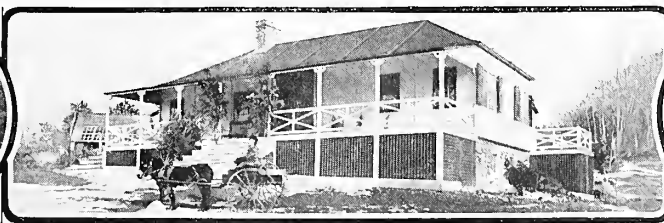
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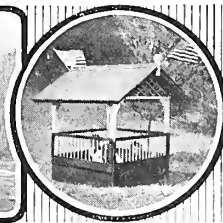
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Bungalow



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rose arch, which acts as entrance to it, frames a long vista down the path.

This minor garden is as informal and unsymmetrical in design and planting as the other garden is formal and symmetrical. It is left to the lax attention of odd moments.

Japanese quinces and blush roses, old-fashioned sweet-scented shrub (*Calycanthus floridus*) and bush honeysuckles, fragrant mock oranges and weigelas are scattered through the ample beds to obstruct the view across them. Many flowers grow rampant in the borders and encroach upon the paths with their spreading foliage.

There are hepaticas, wind flowers, bloodroots and other spring wild flowers. There are snowdrops and lilies-of-the-valley, double buttercups and snow-in-summer. There are spring bulbs, narcissus and tulips, Spanish iris and *Fritillaria Meleagris*, the speckled Guinea-hen flower. There are summer bulbs, the gold-banded lilies, pure white Madonna lilies, nodding, Japanese lilies and brilliant tiger lilies. There are many-colored gladioli.

A few Oriental poppies blaze forth their scarlet all alone amid dark-green foliage. *Lychnis* and *Monarda*; *Heuchera*, the Coral bells, and *Lobelia*, the Cardinal flower; each has a special place where its color will not hurt more delicate shades or be hurt by them.

There are delicate flowers, like *Gypsophila*, *galium* and statice, tropical-looking plants like Yuccas, and heavy-leaved Funkias.

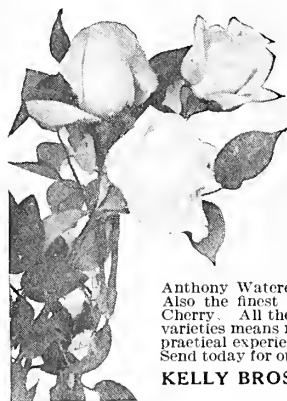
There are all kinds of campanulas, harebells, bell flowers and peach bells. There are all kinds of spiked flowers, pyramidal foxgloves, spires of larkspurs and monk's-hoods, old-fashioned hollyhocks and coarse-leaved *Physostegia*, with spikes of gaping flowers, some purple, some lilac, some white. There are sturdy, blue Anchusas, decorative Shasta daisies, yellow anthemids and luxuriant phlox. There are feathery plumes of *Thalictrum*, the meadow rue and the odd amethyst sea holly, with blue thistle-like globes on blue stems, with spiny, blue-green foliage.

There are summer wild flowers, orange milkweed from sandy roadsides, white *Eupatoriums* from the fields, strong, yellow mulleins from stony hillsides, and delicate evening primroses.

There are all kinds of annuals, *Ageratum* and *Scabiosa*, white *petunias* and blue *Nigella*, heliotrope and cosmos, purple pansies and brilliant orange zinnias, pink annual larkspur and salmon-pink annual phlox, lemon-yellow and orange marigolds and mignonette, snapdragons of delicate cream and pink rose and lovely scented stocks.

Large, white *Boltonia asteroides*, tall, reddish-purple New England asters, sturdy, yellow *Heleniums* make strong autumn bloom.

Pots of tender flowers, sweet-smelling lemon verbena and rose-leaved geranium are plunged in the ground.



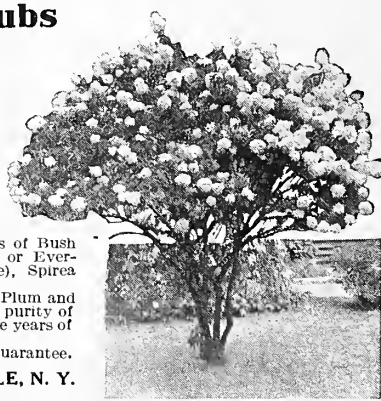
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It is a place for old-fashioned plants and favorites, flowers of odd colors and curious shapes. It is a medley of color, a spot full of fragrance. Little surprises are at every turn, unexpected flowers are found in hidden corners; there are little blind paths where steps have to be retraced through flower tangles. It has absorbed in a very short time the indescribable, old-fashioned quality of the Colonial gardens, of which it was to be a freely rendered replica.

New Use for Old Plants

(Continued from page 262)

and attracts the usual notice—or lack of notice—that such planting does. But if these same plants are grown so that they attain an unusual size and an increased number of flowers, then the element of novelty creeps in and the bed is something more than just a bed of geraniums.

There are dozens of hardy plants that can be used in the house. A few that might be suggested are *Aquilegia*, *Arabis*, *Asperula odorata*, *Trollius europeus*, *Cerastium tomentosum*, *phlox subulata*. These are both suitable for the inside and outside. The plants should be small. If you don't happen to have a stock, grow them from seed, sowing in the early part of July and potting when of good size, and winter them in a coldframe or pit. Take them out in the spring and start them into growth at your window. If you have a coldframe, give them their start there, since they will come along tougher than if brought into the house at once.

For larger plants, such as the *Campanulas calacanthema*, foxgloves, *Veronicas spicata*, anemone, Queen Charlotte, and the like, which can be used for veranda ornaments, go out into the border and dig the plants up early and put them in large pots and place them on your steps.

Large clumps of trollius, although about to come into flower, can be dug up and potted without any danger of losing them, provided a thorough soaking is given when first potted. The same is true of the campanula. They are easily grown from seed or the old plants can be dug up without trouble. A large tub of these flowers makes an attractive and unusual sight. They can be potted singly, but when massed they are more effective.

The use of hardy plants on the verandah is with the idea of succession, allowing one kind to remain while the flowers look fresh, and then substituting another and later flowering kind. By this process the season is materially lengthened.

Returning to the interior use, it would be a good idea to make a small window box about four by three deep and wide and the length of the window and plunge the different plants into these boxes. The *Aquilegia*, particularly, thrives under such treatment, and the plants send up masses of their wonderfully beautiful flowers, lasting for weeks.



The Agency of a United People

A striking comparison between a homogeneous country and a heterogeneous group of countries is obtained by placing over the map of the United States the map of Europe. These represent the same area—about 3,000,000 square miles—if a few of the remote provinces of Russia are omitted.

Europe has the advantage in population, with more than four times as many people as the United States; in the number of large cities, with two and a half times as many cities of over 100,000 population.

Yet the United States, a comparatively young country, has outstripped Europe in the diffusion of civilization, because of its wonderfully greater means of communication between all parts of its area. The United States not only excels in transportation facilities, but it has nearly three times as many telephones as Europe, or about eleven times as many in relation to population.

By the completion of the Transcontinental Line we now talk from one end of this country to the other, while in Europe the longest conversation is no farther than from New York to Atlanta, and even that depends on the imperfect co-operation of unrelated systems.

Europe, with twenty-five countries and many different languages, serves as an illuminating contrast to the United States, with one language and a homogeneous people, despite the fact that our population has been derived from all parts of the world.

During the last forty years the steadily extending lines of the Bell System have contributed in no small measure to this amalgamating of different races. The latest achievement—the linking of coast to coast—has given greater force to the national motto, "E Pluribus Unum."

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are warmer in winter and cooler in summer than tiled, slated, clapboarded, or gummed-paper houses. They cover the surface with three insulating layers and non-conducting air-spaces, and no other finish does this. They are also much more picturesque and attractive, and they admit of far more varied and beautiful coloring than any other finish.

Cabot's Creosote Stains

color them in beautiful tones of moss-green, bark-brown, silver-gray, etc., and the creosote thoroughly preserves the wood and makes it less inflammable.

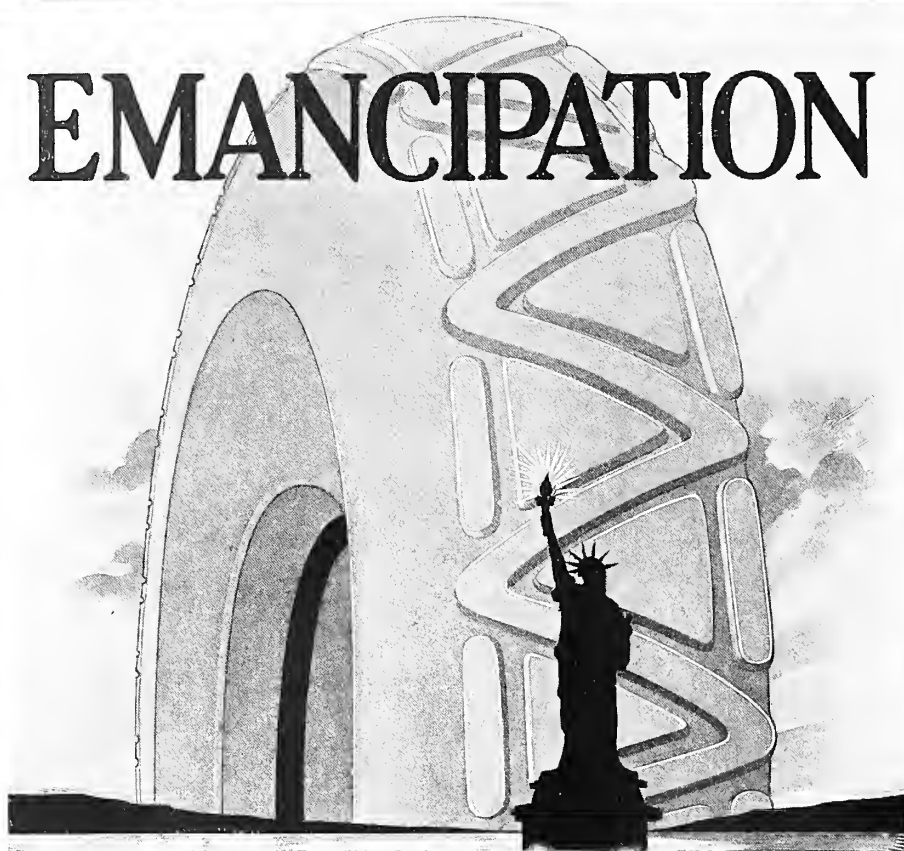
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It is not so much what you use, but the way you use it, that is important. Remember that sunlight is essential, and plenty of water must be given, for a severe drying-out will end the possibilities.

Trying out plants on this plan is a profitable operation, however viewed, for nothing is lost. Even should the inside show prove a failure, the stock can be put out in the garden, where it will flower the next season. Once the prejudice against using hardy plants in such a way is overcome and the real possibilities are appreciated, there is no limit to the decorative effects that may be achieved by using them.

A House Made for Sunlight

(Continued from page 265)

9 feet in height. Not satisfied in using concrete and cement within the home, this builder employed it in the construction of the surrounding features. The well-equipped garage and the driveway are of this material, as are the brooder and incubator houses, the chicken sheds, the standard of the clothes-drying rack and the fence which enclosed two rear sides of this property. The two pretty pergolas are also made entirely of concrete, these being so located as to "shut off" the view of the back yard from the streets. On the outside of these, rose vines are growing, while on the inside are grape vines.

The result of much and careful thought is this house. Planned right and built right, and, being on Spanish lines, it is bound to be in "style" for years to come, for that type of architecture will probably always be appropriate in Southern California.

The subject has often been discussed, and still is a moot point, whether or not this Spanish type of bungalow is adaptable to other localities. For it has even been hinted that from the Spanish will eventually be created the American style of architecture. From the point of feasibility, however, there is no doubt but that for California this type is the best, the atmosphere conspiring to enhance the appearances and the climate eliminating to a great extent the problems of heating. For the other sections of the country the Spanish bungalow can be adapted, even to the patio, and an all-year house made that, with proper heat radiation, would make living in it easy and comfortable. It is a democratic style, and hence peculiarly American.

But whatever the style of house, there is no doubt but that its construction of monolithic reinforced concrete is quite adaptable to any region, and should be given serious consideration by the prospective house builder. The material is plastic, capable of adornment and tinting, fireproof, timeproof and damp-proof, if properly treated. Moreover, if one combines with the use of concrete the use of steel door and window frames and sash set flush with the wall, there is still further eliminated the possibilities of fire, and

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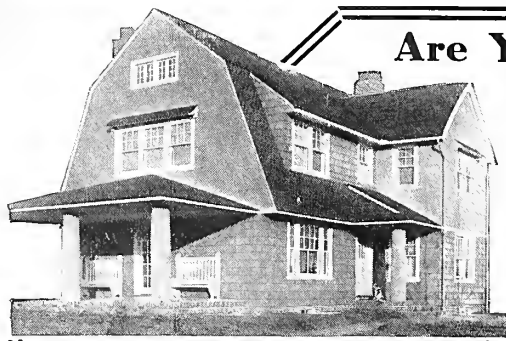
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They come in bundles ready to lay.

They last twice as long as brush-coated shingles or natural wood. They are proof against dry-rot, decay, worms and weather. They save time, muss and expense of staining on the job. We select best cedar shingles and by our special process preserve them in creosote and stain them any color desired. Best earth pigments—no aniline dyes. No wedge-shaped shingles—no waste.

Write to-day for sample colors on wood and book of "CREO-DIPT" houses in all parts of the country. Names of architect and lumber dealer appreciated.

STANDARD STAINED SHINGLE CO., 1012 Oliver St., N. Tonawanda, N.Y. (Shipments prompt. Branch Factory in Chicago for Western Trade)



Residence of Dr. A. J. Garver, Worcester, Mass. Architects, L. W. Briggs & Co. 24-inch "CREO-DIPT" Shingles on Side Walls; Special "CREO-DIPT" Shingles on Roof; two distinct permanent colors.

work is saved for those who have to keep clean and in order the insides of the house.

At all events, the reader can gain much from a close study of this "House Made for Sunlight," for here are features that can readily be adapted to houses anywhere, features that will prove their worth both in serviceableness and decorative value.

Living Lawns

(Continued from page 261)

do not burn the young grass, but they protect it from extremes of temperature and assist to conserve moisture. I cannot too strongly recommend the use of these top dressings, as they supply nitrogen to the young grass during the most critical period of its existence, and the effect that they have on its growth is extraordinary.

When the young grass is about 1½ inches high it should be rolled with a light roller, and when about 2 inches high it is ready to be cut, which may be done either with a freely running machine, set rather high, or with scythes. It is most important to regularly mow and roll the young grass from the very start, otherwise it will grow long and thin, instead of tillering out and covering the ground. Any thin or bare places should be repaired as soon as noticed by very carefully loosening the surface soil, sowing a handful of seed, covering, and rolling in the usual manner.

—W. R. Gilbert.

Much of the success with a lawn depends, of course, on the kind of seed used, for there is just as much individuality in a plant produced from a grass seed as in the choicest plant in a greenhouse. One kind of grass seed will produce a low-growing plant while another grows high; one wants a moist situation, another a dry one; some will germinate in the shade, others will not, and so on through the list.

Kentucky Blue Grass—Fine for lawns; grows slowly but vigorously almost everywhere but on acid soil.

Red Top—Shows results more quickly than blue grass; will thrive on a sandy soil; fine in combination with blue grass.

English Rye Grass—Grows quickly and shows almost immediate results; good to combine with the slow-growing blue grass.

Various-leaved Fescue—Good for shady and moist places.

Rhode Island Bent—Has a creeping habit; good for putting-greens, sandy soils.

Creeping Bent—Creeping habit; good for sandy places and to bind banks or sloping places. Combined with Rhode Island bent for putting-greens.

Crested Dog's-tail—Forms a low and compact sward; good for slopes and shady places.

Wood Meadow Grass—Good for shady places; is very hardy.

Red Fescue—Thrives on poor soils and gravelly banks.



Coldwell Combination Roller and Motor Power Lawn Mower on John D. Rockefeller's Estate at Pocantico Hills, N.Y.

WITH fifteen years' experience in the manufacture of Motor-driven Lawn Mowers, the **Coldwell Lawn Mower Company** is offering this season a line of both the Ride and Walk types, partially described below. Illustrated catalogue containing full description sent on application.

MODEL	TYPE	Weight on Drive Rollers	Width of Cut	Capacity per hour	PRICE
D	Ride	2,000 lbs	40 inches	2½ acres	\$1,300
E	"	1,100 "	40 "	2½ "	1,300
F	Walk	1,100 "	40 "	1 acre	475
G	"	600 "	35 "	¾ "	325
H	"	500 "	30 "	½ "	250

All of the Walk type of machines have quick demountable cutter units. Model F, quick demountable Lawn Sweeping attachment, \$100 extra.

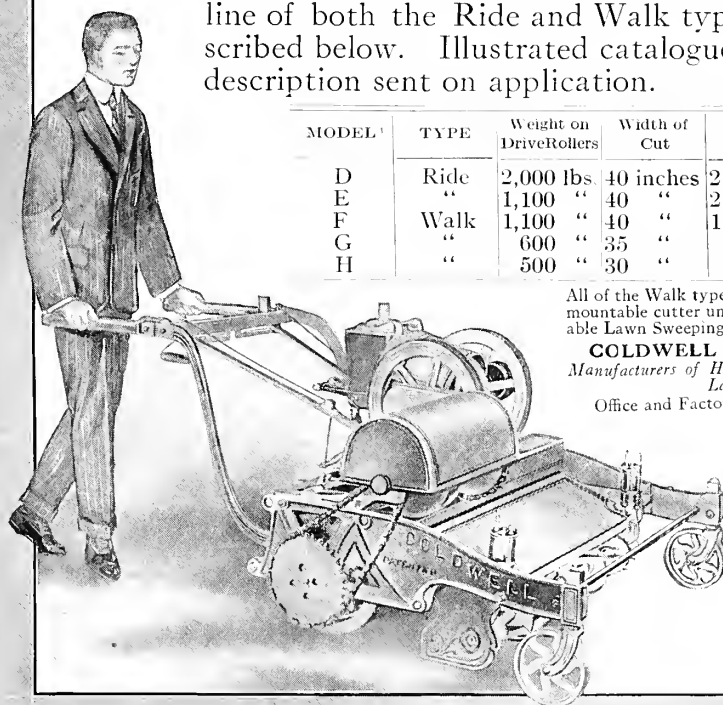
COLDWELL LAWN MOWER CO.

Manufacturers of Hand, Horse and Motor Power Lawn Mowers.

Office and Factory at NEWBURGH, N.Y.

Warehouses
Philadelphia and Chicago.

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HUDSON ASPHALT SHINGLES

is amply rewarded in having a permanent, weathertight, fire-resisting and attractive roof. He saves maintenance expenses and increases the value of his property.

Hudson Asphalt Shingles

Are Slate Surfaced in Colors
RED and GREEN

Free Samples and Booklet will be sent, upon request.

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That Bare Spot in your lawn can be renovated by **Bunyard's** Invincible Grass Seed Mixtures

Made up of the finest re-cleaned seed
BUNYARD'S "BRITISH LAWN'S"
FORMULA

This mixture is made from a famous British formula that produces the well known lawns so much admired.
Price: 35c lb.; 10 lbs. \$3.25; per bushel, 20 lbs., \$6.00; 10 bushels or more, \$5.50 per bushel.

BUNYARD'S CENTRAL PARK
MIXTURE

An excellent mixture for re-seeding run-down and worn out lawns.

Price: 25c lb.; 10 lbs. \$2.25; bushel \$1.00.

BUNYARD'S PUTTING GREEN
MIXTURE

Made up of grasses that will stand the wear and tear on the "Green."
Price: 50c lb.; 10 lbs. \$4.00; bushel, 20 lbs., \$7.50.

BUNYARD'S TERRACE MIXTURE
Made up of grasses that are deep rooting and will hold the soil.

Price: 50c lb.; 10 lbs. \$4.00; bushel, 20 lbs., \$7.50.

BUNYARD'S SHADY NOOK
MIXTURE

Specially prepared to grow under trees and where shade predominates.

Price: 50c lb.; 10 lbs. \$4.00; bushel, 20 lbs., \$7.50. All above F.O.B. your city. If you have "Lawn Trouble," drop me a line and I will send you my interesting booklet "The Lawn Green."

HARRY A. BUNYARD CO. (INC.)
Grass Seed Specialists

40 W. 28th St., New York City
Between B'way & 6th Ave.

White Clover—Good for slopes; not to be recommended for a lawn.

Sheep Fescue—Good for light, dry soils.

On banks and terraces it is preferable to use sods rather than seeding. The sods can be held in place with wooden pegs driven through them seven or eight inches into the bank. Over this work scatter some seed and give a light dressing of loam; then pound the whole to an even surface. When the bank is too steep to hold the sods pegged in this way, they should be piled upon each other horizontally, so that the ends will form the surface of the bank. This effects the double purpose of creating a permanent sward and also a depth of ten inches of loam upon which it can feed.

A lawn that has been properly made will not suffer if it is not given a yearly dressing, for it will have sufficient food supply in the ground to keep it going for years.

Strange as it may seem, many good lawns have been ruined by being given a heavy application of manure year after year. When a top dressing is necessary on soil that is good, Canada hardwood ashes and bone meal will supply all the nourishment; may be washed into the soil.

The Canada hardwood ashes, as usually found in the market, contain from 1 to 5 per cent of potash, but to get the results you are looking for, the ashes should contain from 7 to 9 per cent of potash. In purchasing this fertilizer in large quantities demand a guaranteed analysis, otherwise you are liable to get something little better than what you take out of your stove, and wholly useless for lawn purposes. There are good ashes on the market, and they can be had if one goes after them vigorously enough and gives some indication of a knowledge of what good ashes are.

When it is not possible to get what you are looking for, mix muriate of potash with finely sifted loam, and spread it broadcast over the grass. This treatment is always efficacious, as you are absolutely sure of getting what is necessary for the land.

Many prefer to use a top dressing of manure, regardless of conditions. It is sure to bring more or less weeds. If you decide to use it, however, get the thoroughly decomposed kind, as this means a minimum of weeds. When manure is used for a top dressing, do not get it on too thick, and do not leave it too long on the grass in the spring. Nothing is to be gained by either of these mistakes and much killing is apt to result.

If it is possible for you to get good sheep manure, use that by all means. It is efficient, cleanly, and produces very few weeds. It is best used at the rate of about a ton to the acre.

Nitrate of soda is a very vigorous stimulant and produces quick results. It is economical, requiring but small quantities to cover large areas. Spread broadcast,



RADIUM MAKES THINGS GROW

Take a high class fertilizer and add to it Radium Element in just the right proportion and you have the ideal plant food—Radium Brand Fertilizer (R.A.F.) Apply it according to directions and your flowers will bloom more beautifully, your vegetables give greater yield, your lawn will thrive, your shrubbery will increase its foliage and bloom. Put up in handy packages for small users. One lb. will fertilize 50 sq. ft. surface, or a plot 5 ft. by 10 ft.

RADIUM
BRAND
Fertilizer



has been thoroughly tested on 130 acre farm, in conservatories, gardens, etc. In fact, scientists in Europe and America have been testing effect of radium upon plant life for ten years. In addition to its wonderful beneficial effects, it has been discovered that where Radium Brand Fertilizer (R.A.F.) was used, plants suffered less from soil parasites, especially cut worms. Dr. H. H. Rusby, Columbia University, in speaking of his experiments with Radium Brand Fertilizer (R.A.F.) says: "Perhaps the most important effect of the radium was that of improving the edible properties of the products."

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Radium Brand Fertilizer (R.A.F.) is sold by florists, grocers, druggists and seed and hardware dealers. If your dealer can not supply you send us his name and 25 cents for can (12 oz. net R.A.F.) prepaid. Also, sold as follows, prepaid, where dealers can not supply you:

2 lb. can . . . 50c	10 lb. can . . . \$1.75
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203 Vanadium Building Pittsburgh, Pa.



Grown with Radium Brand Fertilizer - Wt. 17 1/2 pounds
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Specimen Trees

We are offering for spring planting a limited quantity of beautiful, large specimens twenty-five feet high with clean, straight trunks and uniform heads, every tree of COTTAGE GARDENS QUALITY.

The selection comprises Maples, Oaks, Elms, Lindens, Planes and several varieties of Evergreens.

We have just published a leaflet giving full particulars. If you are interested, write us and a copy will be sent you by return mail.

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Surrounding your country home or suburban place will add greatly to the appearance and value. Provide for a splendid hedge by planting this season our inexpensive.

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Our specialized collection of these young conifers is all hardy, field-grown stock. Varieties for every place and purpose.

Plant a windbreak of Blue Spruce or a row of fine Poplars. You'll be surprised how quickly our 3- and 4-year sizes will grow to large sturdy trees. Send for booklet giving description, sizes and prices. Planting instructions free. Write us today.

The North-Eastern Forestry Co.
Tree Seeds and Nursery Stock Box 1, Cheshire, Conn.

For Your Lawn's Betterment Buy Alphano Humus Now

ALPHANO HUMUS is nature's own soil builder, because no soil can be fertile without Humus.

It is rich in root feeding foods. Has no odor. Highly sanitary. Contains no weed seeds.

Has great moisture holding power, which fortifies your lawn or garden against dry weather.

Spread on your lawn; rake it in. Effects will be immediate. Results will be lasting.

Mix it with your garden soil; sow it in the drills with the seeds; dig it around your plants and shrubs. Abolish obnoxious, unsanitary manures. Garden with Alphano Humus from start to finish.

Its low cost makes its liberal use possible.

For particulars, send for Humus Book.

Advise about how much ground you want to enrich, and we will suggest amount of Humus needed.

5 BAGS For \$5

Alphano Humus Co.
17-E Battery Place
New York

about 175 pounds to the acre; or, dissolved, three pounds to every 100 gallons of water. The dry application should be made always before a rainstorm, otherwise much burning is apt to result to the grass. For an occasional application it is all right to use this, but for the year-in-and-year-out fertilizer it should be alternated with other things.

Humus is invaluable for use on lawns and golf courses as a top dressing and also when it is incorporated into the soil before the seeding is done. On clay soils, besides being valuable as a plant food, it helps greatly in surface drainage, which is, of course, absolutely necessary for the development of the short-rooted dwarf grasses desirable on golf courses. On sandy soils, which are usually deficient in plant food, it provides a very lasting food for the grasses.

Even if you paid a thousand dollars a bushel for your grass seed, and then spent as much more on the preparation of your land, you could not escape having weeds.

The thing to do when you have them is to get rid of them, and this is accomplished only by getting right after them with a persistence proportionate to the abundance of the weeds. The knife is the only real weapon for this. After digging out your weeds, sow in grass seed with the idea of making the grass grow so thick that there will be no place for the weeds to creep in. Dandelions and plantains are simple matters that can be handled easily, but where crab grass shows up there is work ahead to get the best of it. It is a destroyer of the first rank, an annual that seeds itself each year and kills out under the first frost, leaving great, bald spaces in the lawn to show where it has been. Even after it has been killed by the frost its baneful influence is not ended, for it has spread broadcast its seeds for the next year's crop.

When you find it, dig it out. This is the only way to conquer it. Set the blades of the mower low, and after dragging the grass up with a rake, run the machine over it; and this should be done early in the year, before July.

On newly-made lawns the weeds are easily removed, and they should be carefully watched so as not to allow them to get too far ahead. Chickweed is almost as bad as crab grass, and when you find the combination, crab grass and chickweed, the simplest solution is to spade or plow the place up in the fall and leave it exposed for the winter.

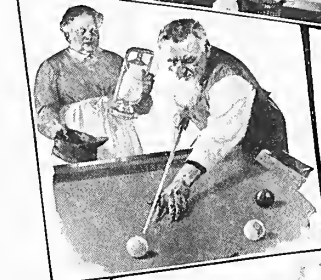
For the broad-leaved varieties of weeds there is a preparation of what is called sand on the market. Sprinkle it on the weeds, and within an hour afterwards they have shriveled and turned black.

Very often earthworms become disfiguring on a grass plot. Where there are many present it is an indication that the earth is in poor condition, compacted, and needing humus. An application of strong lime water will drive many to the surface, where they can be swept up; or a heavy

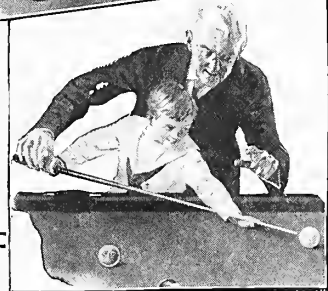
"Third Call
for Dinner"



"The stock
ain't fed yet
Hiram!"



"Teaching
Young
America
to Shoot"



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This grand old game was once the sport of royalty alone. Yet these are days when Carom or Pocket Billiards reigns supreme in mansion and cottage alike. Look about you—learn how home folks love the boundless pleasures of Billiards. How they prize its physical benefits, too.

Each evening in the billiard room a round of gaiety ensues. Men lose their cares amid the thrilling rivalry. Here girls develop gracefulness and charm.

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Real Brunswick Regulation tables, modified only in size and design to harmonize with home surroundings. The "GRAND" and "BABY GRAND" are cabinet masterpieces in mahogany richly inlaid. Other styles include Convertible models in oak or mahogany that serve as perfect Library and Dining Tables when not in use for billiards.

All Brunswick Home tables have quick-acting Monarch cushions, genuine Vermont slate bed, fast imported billiard cloth—all the most scientific playing qualities.

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Our popular purchase plan—terms as low as 20c a day—lets you pay monthly as you play. And you are privileged to try any table 30 days right in your own home.

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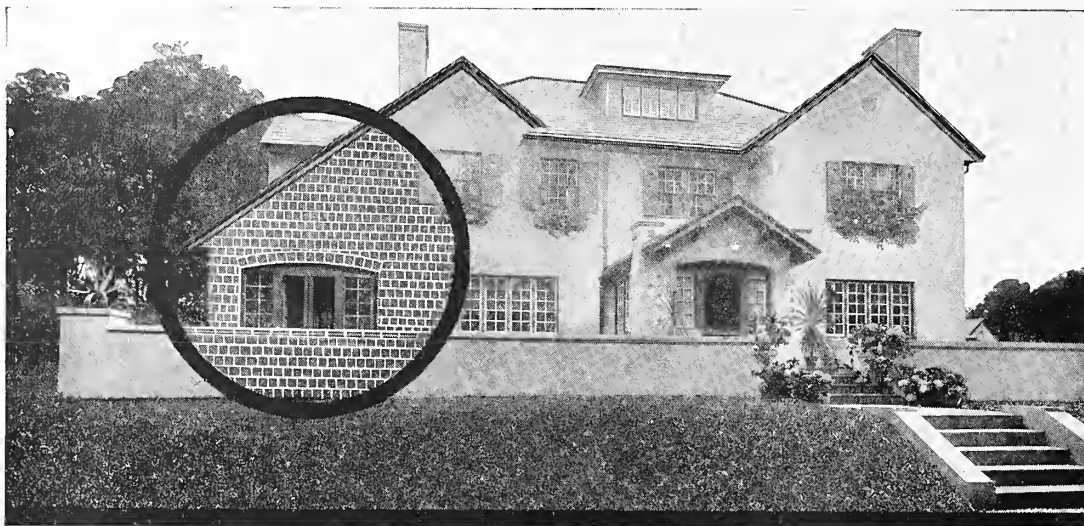
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Can These Things Be Replaced?

THE arm-chair, where perhaps you sit as you read this magazine—how comfortably it conforms to the curve of your back. How often you have thought of its welcoming arms as a haven at the end of a hard day—and

the side-board that has been in the family for more than one generation. You can remember how you had to stand on tip-toe to reach the sugar bowl on its shelf—and

the old secretary in the corner.

Old friends, these.

Could they ever be replaced? Is there any insurance in the world that could cover them in case of destruction by fire?

You can safeguard them as well as all the other home treasures made priceless by association—if you build your house of Natco Hollow Tile—Fireproof; damp proof; vermin proof; age proof; warmer in Winter; cooler in Summer.

The house built of Natco throughout—walls, partitions, floors and roof—is constructed rapidly and economically. Its cost of maintenance is low; it is durable and interior fire risks are absolutely controlled.

Natco Hollow Tile is precisely the same material—the same Company's product—that has been used in the construction of the greatest fireproof buildings in the world. The twenty years' experience of this Company has developed a perfect form of Fireproof Construction. "Natco" stamped on every tile.

Investigate this modern form of construction before you decide upon your building specifications. A line will bring you our new 32-page hand-book, "Fireproof Houses." Contains photographs of typical Natco residences, large and small. An invaluable guide to the prospective builder. Mailed anywhere for 10 cents (in stamps or coin). Write today. Address Dept. Y



NATIONAL FIRE-PROOFING COMPANY

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rolling with a 1,500-pound roller will do much to discourage them.

It is surprising how much damage a colony of ants can do on a lawn. They should be looked after the first time they are noticed, for they work rapidly, and the longer neglected the more difficult it is to eradicate them.

There are many remedies recommended, but the best one lies in the use of bisulphide of carbon. This is very effective, but it has come into such common use that a word of caution should be given as to its handling. It is very volatile and, when near flame, powerfully explosive, and should be handled with great care. Pour it into the runways of the ants, and then throw over these a mat. The fumes will speedily kill all the ants. A better way, however, is to drive a stick into the ground in several places where the colony is located, and in these holes pour the carbon, afterwards plugging the holes up tightly.

Moles are frequently found on lawns, but they are not serious, because they can be easily controlled by heavily rolling or by traps made to catch them. Where there is a suspicion of the presence of moles, no time should be lost in getting after them. They sometimes work for a long time before their destructive borings are evident, and then it will take much labor to get ahead of them. Keep the heavy roller going as a preventive.—Luke J. Doogue.

The garden at the seashore is usually an afterthought, but often these afterthought gardens can be a success, as you will discover in the May HOUSE AND GARDEN.

COUNTRY HOUSES. By Aymar Embury II. Doubleday, Page & Co. \$3.00.

Every man has in his heart the vision of the house that he will build some day. A few of us are able eventually to attain that vision and see our dream crystallized into permanent fabric; as for the remainder—a plausible majority—they buy picture books of houses and go on with the dream, which is true wisdom. Such a picture book is this volume showing the work of Aymar Embury II. Though holding firm to the best traditions of the Colonial and Dutch Colonial craftsman-builders, he has gone forward in the incorporation of exquisite detail and ingenious planning, so that his houses may be said to represent the best of American domestic architecture of the day. Of each house are shown the plans, and exterior and interior views. The costs range from modest structures of \$5,000 or \$6,000 to the more elaborate country home. Several of the pictures have been reproduced in HOUSE AND GARDEN, bringing from the readers a deserved measure of interest; others are new; but all are worth the seeing and the knowing, even if one belong to that plausible majority which never attains the real house, but has to content itself with looking at pictures.

Why are the largest properties being planted with groups of a hundred or more of each color of

Meehans' Mallow Marvel

For the same reason that this plant creation of the century is being used the country over on smaller properties—because no other hardy plant provides such a profusion of immense bloom, in brilliant reds, soft pinks and pearly white. Plant them now. Two-year roots—will bloom plentifully this year—

Pink or White 50c each, \$4.00 for 10; \$34 per hundred.
Red75c each, \$6.00 for 10; \$50 per hundred.
Mixed Colors .35c each, \$3.00 for 10; \$25 per hundred.

MEEHANS' SUMMER CATALOG shows what hardy plants to use between April 1st and October 1st. Tells how to get quick results on that new property.



THOMAS MEEHAN & SONS

Box 40

Germantown, Phila.



The Lawn Mower—Its Proper Selection for Various Conditions

THE creation of the lawn mower was entirely due to an Englishman—Edward Budding—a native of Gloucestershire, England. He had considerable ability as a draughtsman, mechanic and inventor. It was while he was superintendent for a large woolen manufacturer in Dursley, England, that the cloth-clipping machine used in the manufacture of woolen goods suggested to him the possibility of inventing a machine for clipping grass. He successfully worked out his idea, and on October 25, 1830, was granted a patent on the first lawn mower.



A roller mower, with demountable cutter and steel-carrying wheels, adaptable to the small place

It was of a pattern now known as the "Roller" mower. A large roller is used instead of drive wheels; it operates a gear which causes the movable blades to revolve against the cutting knife and also helps to keep the lawn smooth and free from bumps.

Since that day, manufacturers have realized that different conditions required different machines, and as a result the buyer of the present time can obtain a machine peculiarly adapted to his requirements. For instance, all mowers are not suitable for terraces having an abrupt slope, and machines used on golf greens or tennis courts which are mowed daily would be unsatisfactory for the average lawn mowed weekly.

The small lawn or grass plot, so common to the private dwellings in most cities, where all that can be had are small patches of grass in the front and back yards, requires a small, light-weight mower of about 12" cut, having direct-drive internal gears, 8" wheels, four revolving blades and adjustable, split-bronze bearings. A medium-priced machine is all that is required, because it receives so little

Old English Floor Wax

Illustrations showing the use of Old English Floor Wax on: Easiest Way, Pianos, Linoleums, Automobiles, and Woodwork.

Fine for Floors, Pianos, Automobiles, Linoleum and All Woodwork

There is nothing cheaper for the cottage—nothing richer for the mansion.

A good wax is the most practical preserving application your kitchen linoleum or woodwork can have.

A good wax produces that beautiful lustre on the floor of the library, dining room or living room which unconsciously shows good taste.

Old English Floor Wax is of the highest repute because it is made of the hard, substantial wax which not only gives the most beautiful finish but is most durable.

Finish your floors with Old English—it's easy—just a rag and a can—no odor and in an hour you can use the room.

Polish your piano with Old English. It restores the lustre and protects the delicate finish.

Old English makes linoleum look new and makes it last about twice as long.

Send for Free Sample of Old English Floor Wax and Book, "Beautiful Floors, Their Finish and Care." It tells authoritatively about

Finishing New Floors
Finishing Old Floors
Hardwood Floors
Pine Floors
Cleaning and Polishing

Care of Waxed Floors
Finishing Dance Floors
Kitchen, Pantry and
Bathroom Floors
Finishing Furniture

Interior Woodwork
Stopping Cracks
Polishing Automobiles
Removing Varnish,
etc.

Polish your automobile—just a rag and a can of Old English make a machine look like new—shed dust—preserve the finish.

Even cheap interior woodwork can be made attractive with one or two applications of Old English and is thereafter easier to keep looking nice.

Old English Floor Wax, because of its high-grade quality of wax, must be put on thinly. But it is most economical—50c worth will cover a good-sized room; needs it about twice a year.

Hardware, Paint (Drug) and House Furnishing Departments sell it.

Think over what your floors cost and how they look. We can tell you how to prevent "worn spots," too.

THE A.S. BOYLE CO.
1943 Dana Ave.
Cincinnati, O.

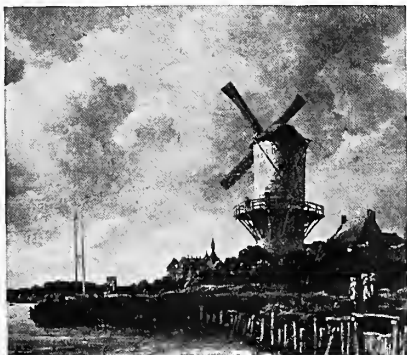
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Every home should have beautiful pictures.

Every child should have a collection of them.

They cost only ONE CENT EACH for 25 or more, size 5½x8, postpaid.

Send 25 cents for 25 Art Subjects, or 25 for Children.

Send 35 cents for these five Extra Size pictures on paper 10 x 12—Baby Stuart, The Angelus, Sir Galahad, Christ and the Doctors, Angel Heads.

Send 5 two-cent stamps for Catalogue of 1600 miniature illustrations, two pictures, and a colored Bird picture.

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VITRALITE is used in the little homes nestling under the trees, and in the big mansions on the Avenue, because it combines richness and economy, beauty and durability.

Vitralite is truly the Long-Life White Enamel. It will not mar, scratch, crack, peel nor turn yellow, whether used inside or outside, on wood, metal or plaster, and withstands repeated washing.

There are
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Varnish Products**
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But there is one that stands out pre-eminently, perhaps because it must withstand such rigorous practical tests daily, and that is "61" Floor Varnish. "61" is heel-proof, mar-proof and water-proof. It is easy to apply and hard to wear out.

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Send for Sample Panels and interesting book on Interior Decoration. Be sure to mention whether you are interested in Vitralite or "61" or both.

Vitralite
THE LONG-LIFE WHITE ENAMEL



**"61" FLOOR
VARNISH**

wear that it will last for years, and the high-priced machines are too large and cumbersome for this purpose. If the plot is very small and enclosed, a lawn trimmer is more satisfactory than a regular mower, because on one side the driving wheel is omitted, allowing the blades to cut close to a wall or fence, eliminating all trimming with grass shears, which is a very tedious operation.

The suburban lawn not over 100 feet by 100 feet requires a high-grade mower having driving wheels 10" or more in diameter, with four blades if mowed weekly or not so often; with five blades if mowed twice weekly or more often, in which case it is essential to have the lawn

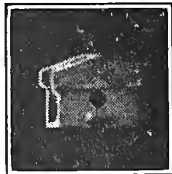


The large country estate requires a high-grade motor mower, such as this used on the property of John D. Rockefeller

well rolled, eliminating all unevenness. For this size lawn a 16" to 18" cut should be used, even 20" cut would be advisable where the lawn is perfectly smooth and free from bushes and flowers. Do not use a smaller machine unless the lawn is so encumbered with flower beds and bushes that a larger machine could not easily be steered around them.

The plot over 100 feet by 100 feet requires a high-grade mower having driving wheels 10" or more in diameter and a cut of 18" to 20" and four or five blades. On large lawns, roller mowers having 18" or 20" cut with driving rollers instead of wheels are very successful, and may be used on smooth lawns with six blades, which, owing to the great speed of the revolving cutter, leaves the lawn exceptionally smooth and velvety. The rollers keep the grass moderately rolled, keeping down ant hills, etc.

The large country-estate lawn or golf course requires high-grade motor or horse mowing machines, probably both if the estate is very large and a portion of it is too hilly for the motor. The best type large motor mower, weighing about 2,300 pounds, having demountable cutter unit, described later, and seat for operator, is the ideal machine, and should be used



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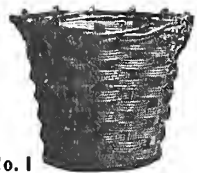
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No. 7

wherever practicable. They are about 8 feet long by 5 feet wide over all, the driving rollers are 21" in diameter, and the width of cut is 40". The high speed of the revolving cutter and the heavy weight of the roller make it all that can be desired for the finest cutting and rolling of the lawn. The high-power motor enables it to cut successfully on hills not over 20 per cent grade. These machines will do the work of three horse mowers at little more than the cost of operating one.

If the size of the lawn be such as to not warrant the purchase of a large motor mower, a small mower weighing about 1,000 pounds will accomplish wonderful results with great speed, and is so far ahead of the horse machine (having a heavier roller and obviating hoof marks when ground is soft) that it is more than worth the difference in price. It has the same width of cut as the large motor and horse mowers, namely, 40", and takes up no more room than the horse mower with the shafts removed. It cuts around shrubbery, trees, etc., with greater ease than any other mower, excepting a hand machine. This machine speeds up to about four miles an hour, and will operate successfully on 25 per cent grades. Demountable cutter units, described later, are a very important feature of this type of machine, as is also the lawn sweeper, which can be quickly substituted in place of the cutting mechanism and easily accomplish the work of seven men with rakes.

If for some reason a horse machine is preferred, one from 30" to 40" cut having four blades if for coarse grass on uneven ground, or six blades if for fine grass where ground is fairly even), should be used. In purchasing this type of machine, be sure to obtain one having a demountable cutter unit, as it avoids the necessity of shipping the entire machine to the factory should it require adjustment. Extra cutter units may be purchased and kept on hand to insure against the possibility of the machine being put out of commission in the height of the grass-cutting season. This feature is very important and should not be overlooked. If conditions require a narrower cut than 30", a smaller horse mower commonly known as the "pony" type may be had, having a cut of 25". These can also be procured with four or six blades for general use, or nine blades for putting or bowling greens. Boots should always be worn by horses doing this work.

The "pony" horse mower described above is one of the best mowers for putting and bowling greens and other greens where exceptionally fine cutting is required. The horse should be supplied with boots when using this machine. If a hand machine is desired, a roller mower having cut from 16" to 20" and demountable cutter unit, with six blades, should be used. The latest types of these machines



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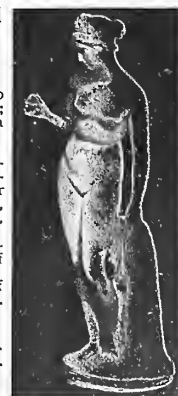


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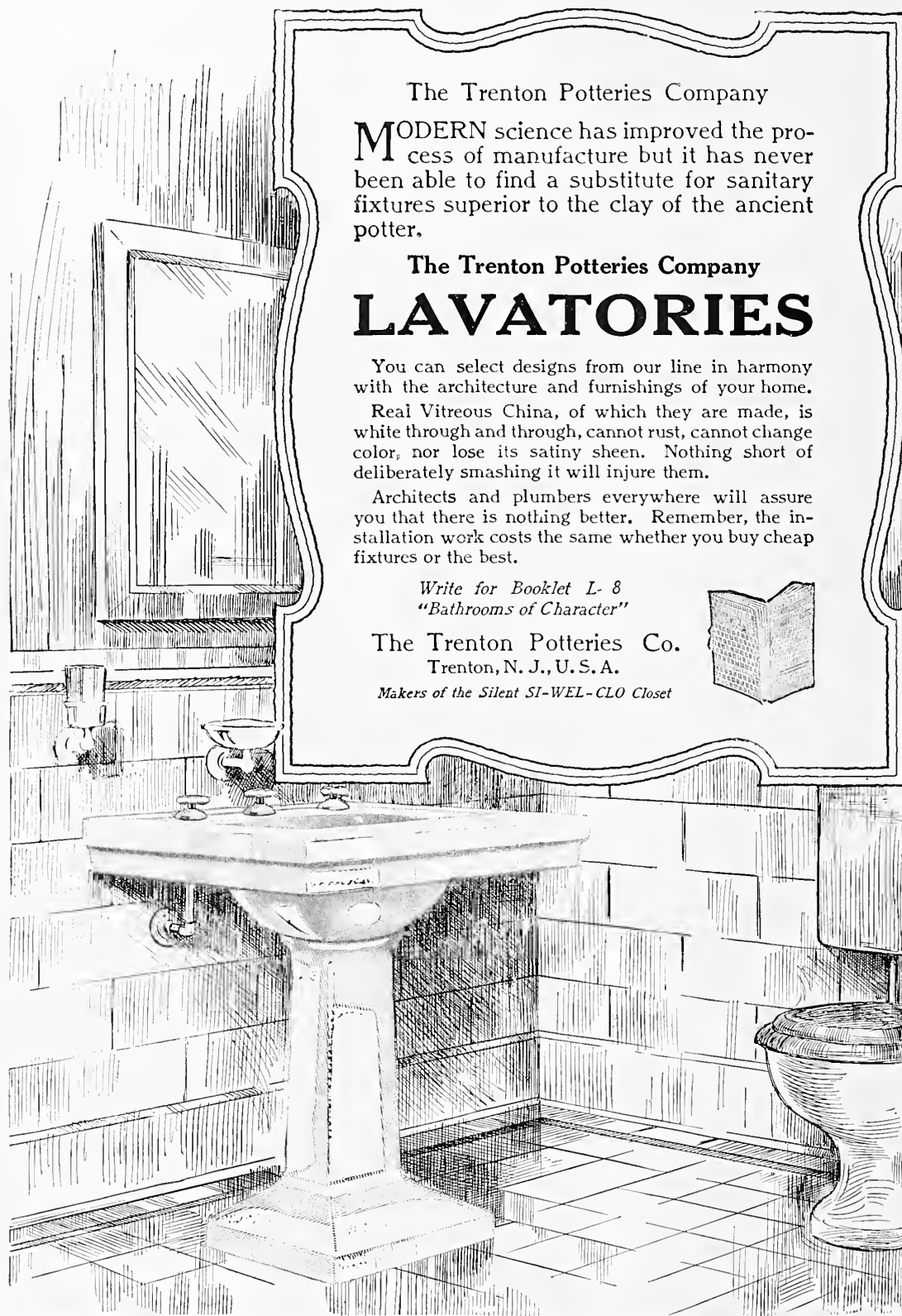
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are supplied with two steel carrying wheels about 14" in diameter, which are used to transport the mower easily from place to place and are only operative when the machine is turned upside down. The demountable cutter units are not only a convenience when it is necessary to have cutters sharpened or adjusted, but, being independent and a separate part of the machine, they are not affected by any twisting or straining to which the main frame may be subjected in passing over rough or uneven ground.

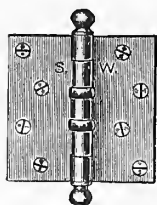
Roller mowers were recommended in the foregoing for use in the 18" and 20" sizes for large lawns. They can also be had in smaller sizes, and they are fine for mowing and trimming at the same time; however, the rollers on the smaller sizes are not weighty enough to be of material use as rollers, but are too heavy to be handled as easily as the mowers having the wheel drive, hence the smaller sizes are only advised in cases where no grades are encountered and no lifting necessary.

Lawn trimmers and edgers are great time and labor savers. They are fitted with a guard covering the revolving cutter, which protects the flowers when trimming around the flower beds. When trimming is completed, the machine is turned completely over and the revolving cutter edges the turf perfectly.

Adjustable bronze bearings require the least attention, but ball-bearings are very satisfactory in the highest grade machines. Do not use a ball-bearing machine unless of the highest quality, because in the cheaper machines the bearings are not properly protected and readily become clogged with grit, which wears the balls unevenly, causing the blades to vibrate as they revolve. Even the balls in high-grade machines will become rough if precaution is not used to keep them well lubricated at all times.

If the lawn is terraced, be sure to obtain a machine having a terrace attachment. This usually consists of an extra pair of lugs on which to attach the handle, or an extra pair of holes in handle irons, either arrangement allowing the handles to drop completely to the ground, so that the tipping up of the machine as it runs down the terrace will not cause the handles to be lifted out of the hands of the operator. If terrace is a gradual slope, either internal, direct-drive gearing or external, rear-drive gearing (train of gears) may be used, but if the slope is abrupt only an internal geared machine should be used, as the distance between the drive wheels and the roller of the external geared machine is so great that the blades, which are set back toward the roller, will clip off the top of the terrace as the machine starts to descend, and leave the grass "long" at the bottom of the terrace just as it starts to run along the lower level.

Unless the grass is cut every day or two, in which event the cuttings shrivel



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up and bow away, grass catchers should always be used. Raking tends to injure the grass, and should be avoided unless used in the form of a lawn cleaner, which is a system of three rapidly revolving rakes that pick up all sorts of litter, leaves, etc., in addition to the grass clippings, leaving the grass standing upright and free from foreign matter. The suction created by the revolving rakes clean the lawn not unlike the vacuum cleaner does the carpet. It is easy to operate, and with one man will accomplish more and better work than four men with hand rakes.—M. B. McKibben.

The Right Way to Grow Seed

(Continued from page 243)

are dead if they do not all come up at once.

Out of doors it is impossible to control the weather conditions, although by means of shelter the seedbed may be protected. Indoors the question of watering arises. It is very important to avoid soaking the soil until germination is an actual fact. The best way of all is to have the soil nicely moist at the start, and then, in the event of a fairly quick germination, no further watering will be required. A good plan is to cover the boxes, pans or pots with sheets of glass, admitting air daily. This protection prevents the soil from drying too rapidly. If, on the germination of the seed, it seems that the sowing has been too thick, it is an excellent plan to thin out at once. Of course, the half-developed plants will have to be thrown away, but it is worth while making the sacrifice, seeing that those which are left behind will be much more sturdy than would be the case if they grew for a week or two in a crowded condition.

As soon as the little plants appear on the scene plenty of light is of supreme importance. Making allowance for the shading which may be needful indoors from bright sunshine, young plants cannot be in too light a position. Without light, the green leaf cannot carry out its wonderful business of extracting the carbon from the atmosphere, but in another way a strong illumination is needful. In dark or in shady places plants tend to grow up towards a lighter position; thus they become lanky weaklings which would never yield good results. Light has a retarding effect on actual growth, and thus plants in a light position are sturdy, with strong stems and an abundance of leaves. This augurs well for the future of the plant, and all gardeners should follow the advice of the books, and put their seedlings on the top shelf of the greenhouse. Young and delicate plants will want close watching under glass, especially in the bright days of spring. The sun at these times is very powerful, and unless a certain amount of protection is given a great deal of damage will result. Sheets of paper cast over the pots or pans are the handiest, seeing that these may be ad-

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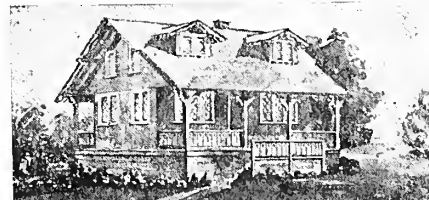
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justed in a moment as the need arises. As the sun gets still more powerful it is a good plan to make the paper damp.

Sooner or later, in most cases, a time comes when transplanting has to be arranged. Wherever possible, whether in bed or border, it is an excellent plan to sow the seed in the position where the plant is to be. Much stronger specimens, as a rule, result from this method. In a great many cases, however, this cannot well be managed, and one is faced with the necessity of making a shift. A few hints on this point may usefully conclude this article. In the first place, always try to remove as much soil as possible with the little plant. Almost every root tip which is exposed to the air, even for a few minutes, is likely to die, and this will mean a great tax on the energies of the little plant before it can settle down in its new home. So much do some gardeners realize the importance of this point that in the case of many large seeds they sow these singly in thumb pots, out of which they can be turned without serious root disturbance. A small, flat piece of wood is very useful for lifting up a little wedge of soil with the roots of the plant. It is best to do the transplanting when the soil is in rather a specially damp state, as then the earth is not so likely to fall away from the roots. Do not keep the little plants out of the soil longer than is absolutely necessary. After putting them into the fresh position press the soil gently around the stem. It is a good thing to plant rather deeply; that is, well up to the first pair of true leaves. This will encourage a stocky growth. Now and again spindly seedlings may be improved if they are put deeply down into the soil. The first few days after transplanting are always rather critical in the life of the seedlings. The chief danger is that the specimen loses moisture more rapidly through its leaves than it can make good by root absorption. At this early stage the roots are still suffering from the shock of the removal. Transpiration from foliage is checked by protecting the plants, wherever this is possible, with glass shades. Where this cannot be arranged, as might be the case out of doors, pieces of paper propped up with sticks could be employed to shield the plants from the hot sun. As soon as all signs of drooping are at an end the shelters must be discarded, as once the plant is established, the more light and air it has the better.

In many instances an even better plan than the use of individual thumb pots is to use one of the varieties of ingenious combination flat and paper pots that are being shown. This flat is of strong wood with an inside collapsible crating of stiff paper, dividing it into a number of square compartments, and the bottom is a sheet of galvanized steel that also serves as a carrier. When the plants are grown all one has to do is to put out the bottom sheet and each plant drops from its com-

partment with sufficient soil compact to its roots. With these potting can be done at a bench in standing position, instead of having to get on your knees in frames. Other flats have a side piece that can be removed and the whole block of compartments pushed out on the work table. Amateurs can make a convenient propagating frame by using one of these detachable side flats, and after planting the seed or small plants, put it in a sheltered spot in the garden. Covering it with a pane of glass of suitable size, you have a perfect little hotbed frame.

Repelling the Pest Invasion

(Continued from page 245)

in April, Bordeaux mixture must be used as a fungicide. This may be mixed with the arsenate of lead and the two applied as one spray. Indeed, it is not a bad idea always to add Bordeaux to any other spray, whatever the latter may be—save the lime-sulphur solution, which is a fungicide in itself without the addition of anything else.

May adds the plant lice or aphids, which are likely to attack anything that grows, to the armies of the invading hosts. Also, it presents for our tender consideration the pleasant, slimy slug-worm—the young of a small, inoffensive appearing saw-fly. The former are sucking insects, the same as the scales; the latter, eating or chewing insects, as all “worms” are. The life-history of each is interesting, but is perhaps not quite so important to the defender of the garden as in the cases already dealt with. Briefly, however, I may say that the aphids generally hatch in early spring, about as the buds are bursting, or a little later; these “stem-mothers,” as they are called, bear young in prodigious numbers, their offspring, in turn, giving birth to succeeding generations, up to a ninth and even an eleventh, according to some observers; while others declare their belief that there are *twenty* generations in a year!

Fortunately, aphids are as easily killed as they are multiplied; yet be not deluded in the treatment of them, for it is necessary to reach an aphid, actually, to kill it. Spraying directed against them cannot be too thorough—and I think I may say that no one yet has ever succeeded in annihilating them from an infested plant with one or two applications of the soapsuds commonly used. If it hits them, it will shrivel up their soft bodies in short order; but there are so many to be hit, and they are in such difficult places—under the leaves invariably, with the leaves curled over and around them because of their extraction of the plant juice—that one or two are bound to escape. Watch for them vigilantly, everywhere—and count upon spraying roses and the tender things which they favor as a place of residence, twice a week all summer through—and perhaps a third time, if the season particularly favors them. Being of the sucking class, only a contact poison, such as the scale requires, will destroy them. Poisons applied to the



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plant for them to eat never get to their insides at all, for their bills reach fairly deep down into the tissue and they draw the juices from well below the danger line.

Slugs, on the other hand, are poisonous, just as the codling moth and the curculio. Slugs eat, instead of drink. Indeed, they eat so energetically that we may hear them if they are very abundant, as the second brood sometimes is, in July! If you doubt it, go out and listen some time. A little faint sound like fine rain falling on leaves will reward such investigation—if the slugs are numerous. And this is, indeed, the chewing of the many tiny mouths. Late in May the egg laying is at its height, from then on a little way into June. Earlier eggs are laid, but it is supposed these do not hatch to any great extent owing to unfavorable weather conditions. About two weeks is required for incubation; then out comes the larva, nearly white, with a yellow-brown head, if it is a pear slug, and free at first from slime. Immediately this exudes, however, from the pear slug—the rose slug is without it—and it is shortly well coated and truly a "slug," eating away at the upper surface of the leaf.

It is not necessary to poison these creatures, for they are so soft-bodied that the soapsuds used against the aphids will usually finish them off as well. Some recommend only a strong spray of water to be thrown against rose bushes, but this I have never found to be sufficient to insure success. Arsenate of lead kills them, poisoning their food; but one objection to using this on ornamental growth is that it shows as a milky deposit on foliage and is therefore unsightly until a rain washes the sprayed plants. My own plan is to use the soapsuds on roses and any ornamental thing that may be troubled, but to let the arsenate of lead take care of them when they are present on other than ornamental growth.

June brings nothing new save the rose-bug—and he is impossible! This we might just as well acknowledge right at the start. Tough and resistant both inside and out, poison that can be applied without injury to the plant, either its leaves or its bloom, will work so slowly that he will have done his damage before death overtakes him. Moreover, there are such endless hordes of him, and he travels so readily that a plant freed from him to-day may be as thickly covered to-morrow as ever it was, with new recruits. Daily applications of arsenate would be necessary, to feed and kill off the daily newcomers.

Hand-picking in the rose garden, rigorously followed up every morning, early, during the six weeks or so that these beetles are in evidence, will insure comparative freedom from damage to flowers. But it is tedious work, for they hide cleverly in the very depths of flower and bud, and are not discovered without careful search nor dislodged without vicious

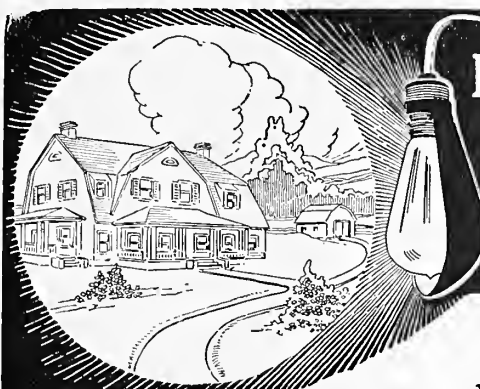
clawing resistance. Proper methods of cultivation are practically the only adequate means of fighting them, where their depredations extend to grapes and fruit trees and bushes generally. They breed more freely in light soil than in heavy, consequently gardens in such soil are almost sure to be greatly troubled by them. Orchardists plan trap plants about to draw them, anything having a white or light flower being attractive to them. If it is possible to discover just where they are breeding in a given locality, the ground may be saturated with kerosene-soap emulsion with fairly satisfactory results; this, of course, chokes off the larva as it draws near the surface to pupate, and if done in May will destroy great numbers.

July and August it is the same old story carried on. Sprayings for the second brood of the codling moth are made in each month, while the weekly precautionary treatment against fungi, and the bi-weekly soapsuds bath to overcome aphids must be kept up as long as real summer weather lasts. Last year I sprayed my roses until late in September; and to insure healthy, vigorous, blooming plants I believe it is decidedly advisable. It is not a difficult task, when one is provided with the proper equipment and the ready-to-use sprays so thoroughly furnished by our friends, the dealers in things for the garden. Without much trouble spraying mixtures can be made at home. Those to use from April on should be mixed in the following proportions:

Arsenate of Lead—Three ounces crystallized arsenate of soda, 7 ounces crystallized acetate of lead, 10 gallons of water. Dissolve the crystals, each kind separately, in a small amount of water. The lead will dissolve more readily if the water is warm. Unite these, and reduce by adding the remainder of the water. A milky mixture will be the result, but straining will not be necessary if the poisons have been thoroughly dissolved and thoroughly stirred with the water. When combining with Bordeaux, use the latter in place of water, instead of clear water.

Bordeaux—One pound copper sulphate (blue vitriol or blue stone) to 1 gallon of water is the proportion for the copper sulphate stock. As much may be made as desired, keeping to this. Prepare and keep in a wooden or porcelain vessel. When needed, add milk of lime made by slaking 2 pounds of lime in 17 gallons of water, to each gallon of the copper sulphate stock. The mixture must not be made till needed, as it loses strength if united and allowed to stand.

Potassium Sulphate—Three pounds potash, $3\frac{1}{2}$ pounds sulphur (finely ground), 3 ounces salt, 1 gallon water. Mix the potash, sulphur and salt together in a porcelain vessel, with a part of the water. Chemical action will make the mixture boil. Add the remainder of the water. This is the stock, to be put away and kept carefully covered. When the



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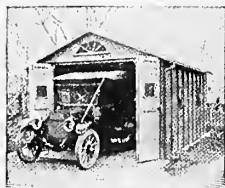
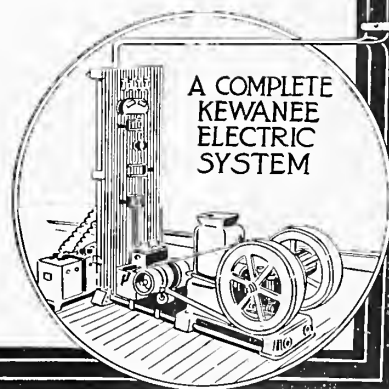
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spraying is to be done, dilute 1 part of stock with 100 parts of water, and use. For prompt application, it is simpler to dissolve *potassium sulphide* (liver of sulphur from the chemists) in water, using ½ ounce to a gallon. This solution will not retain its strength, however, and must therefore only be prepared as needed.

Soapsuds—Two pounds whale-oil soap to 1 gallon water. Dissolve the soap in the water by heating to boiling point, and put away for stock. Dilute 1 part stock with 5 parts water for use against aphids, slugs, etc. Common laundry soap also makes an effective wash, ¼ cake to 4 gallons water, used hot, being the proportion.

All of the above, save the last, are obtainable from first-class dealers, in forms to be depended upon and with full directions for applying. It is quite unnecessary to make them, if one prefers to buy ready mixed.

Your Saturday Afternoon Garden (Continued from page 251)

may be made to help in the work—dibbles, transplanting trowels, the transplanting hoe, and so forth. The various kinds of plants are set at different distances, shown in any planting table (see planting table in this issue). If the plants are large and succulent the outside leaves should be cut back a third or more, so as to make them more convenient to handle and to keep them from wilting in the sun.

Unless the ground is very rich it is usually best to put a little manure or fertilizer in the "hill," or the place where the plant is to be set out. It may be quickly done either by marking off the rows both ways and digging a small hole with hoe or trowel at each intersection, adding the compost and covering it up, making a mark with the head of the hoe to show exactly where it is, or by furrowing out the rows one way with a hoe attachment on the wheel-hoe, crossmarking, dropping the compost and covering it again with the wheel-hoe. Where several hundred plants are to be set the latter method will usually save some time. In setting the plants, get them well down into the soil, but not deep enough to cover the crowns of such things as lettuce, beets, strawberries or celery. Get them in as firmly as possible. Some planters make a practice of walking back over each row and pressing the plants in still more firmly with the feet. If the plants have to be set out in hot, bright weather it is not a difficult matter to shade each plant with a sheet of newspaper, which can be left on for two or three days.

The Seed Border.—One of the tasks which should be attended to early in your garden making—the third or fourth Saturday afternoon of this month, if you are maintaining a Saturday afternoon garden—is to start seeds of things which you will want for transplanting. This will include such plants as cabbage and cauliflower for fall use, leek, summer lettuce, late celery, and so forth. Ordinarily, this



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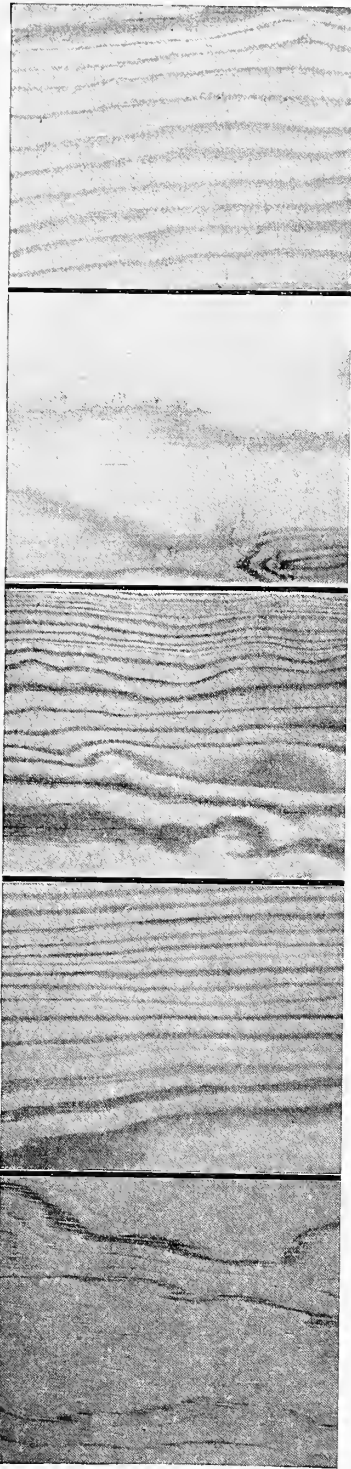
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work, if it is not overlooked altogether, is done by planting the seeds of the several things here and there about the garden where space and opportunity offer. An easier way is to have a small plot devoted exclusively to this purpose, where the plants, being all in one place, can be more effectively watched. If the garden is near the house and convenient to the water supply, the seed-bed may be made up in one corner of it. An empty hotbed or cold-frame will make an ideal spot, or, if neither of these conditions is available, the seedbed may be made on the south side of a fence or wall or the side of a house or shed, which will protect it from the north, and where it can be handily managed. One of the essentials for it is good drainage; and, unless the soil is naturally dry and light enough, a few wheelbarrow loads of light loam should be added to the surface—after it is spaded up. A board set on edge along the front will hold it in place and make a neat-looking job. Such a seedbed can be managed about the same way as a frame, and the plants watched daily, protected from insects and thinned out as soon as they are large enough, and watered when necessary. By the time they are needed in the garden they will be strong, thrifty plants conveniently situated for taking out and transplanting. Very often when they are planted in the garden, and sometimes even when they are in a specially prepared seedbed, the plants are allowed to remain too close together, with the consequence that they crowd each other and grow up tall and spindling. The rows should be made from 6" to 12" apart, according to the size of the seed and the size you expect to have the plants, before shifting them to a permanent position. Another important job to be done late this month, some Saturday afternoon, about four to six weeks before it is safe to plant corn in your neighborhood, is to make use of paper pots or dirt bands to start early hills of cucumbers, melons, lima beans, and, if you wish the earliest sweet corn you ever had, some hills of this also. Dirt bands are simply paper pots without any bottoms. They may be packed into a flat which will furnish the bottoms or may be placed on newspapers. The former method has many advantages, as a number at a time may be handled and carried to the field without disturbing them. The 4" or 5" size should be used. Fill with light, rich compost, water thoroughly, and after they have been drained out enough to be friable again, plant in each pot a number of seeds (about half or two-thirds as many as you would put into a hill out of doors of the variety being planted). They should be given a suitable temperature in a frame—the corn, of course, will not require as much heat as others—and protected from insects. The beans and melons should be thinned out to two or three plants a hill when well up.



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The Dahlia—A Flower That Came Back

(Continued from page 249)

which case no growth will start. All the single dahlias, too, are easily raised from seed sown in the hotbeds about March 1st, and when so started the period of bloom is greatly increased. By the early start thus obtained the dahlias raised from seed are particularly fine in form and color. Dormant tubers of double dahlias can be started about April 1st in a coldframe.



When the plant is dead, remove the root; and after drying it store in some cool place until time for the next planting

The chief use of seeds is the production of new varieties. Seeds are also used by those who chiefly desire a mass of color and are not particularly desirous of finely formed blooms. If planted early enough indoors and transplanted to the open as soon as safe, fine masses of color can be secured before frost, and the roots of the more desirable kinds can be saved, and will give even better results the next season.

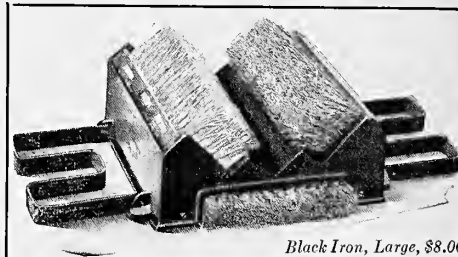
The dahlia flourishes best in deep, rich, moist soil, although very good results can be had on sandy soil, provided plant food and moisture are furnished. Clay should be avoided. The soil is not so important except in its ability to hold moisture during severe draughts.

Dahlias are easily destroyed by high winds unless they are given a protected position. They need plenty of air and sunlight for best results. In shaded, close, airless quarters the growth is sappy and the flowers are poorly colored. Moreover, if the best effects are to be had, they should not be planted in clumps, as their brilliance of coloring can often prove a jarring note in the garden scheme.

It is always best to broadcast the manure and plow or spade it into the soil; if the manure is not well decomposed, thorough spading is necessary. On heavy clay or gravelly soils, loose, coarse manure may be used, but on light or sandy soils, manure should always be fine and well rotted. Commercial fertilizers are also largely used, and are valuable when used in connection with manure.

Although there is a diversity of opinion as to the proper time to plant dahlias, it is always best to plant early—about two weeks before danger of frost is over. If small roots or green plants are used, do

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not set out until later. A good rule to follow would be to plant small roots and green plants as soon as the danger from frosts is passed, and large roots about three weeks earlier.

During its early stage of development, the dahlia grows very rapidly, and should be kept thoroughly tilled. But, while deep tillage is beneficial during the early stages of development, it is almost fatal to the production of flowers if practiced after the plants come into bloom. Therefore, when the plants commence to bloom, cease deep tillage and stir the soil to the depth of one to three inches only, but stir it often, and never allow the surface to become hard and baked. This will not only prevent excessive evaporation of moisture and keep the under-soil cool and moist, but will also prevent the destruction of immense quantities of feeding roots.

As long as the roots supply more nourishment than is needed to support the plant, both the plant and the flowers increase in size and beauty; but as the supply gradually becomes exhausted the plants cease growing and the flowers become much smaller. This condition is generally called "bloomed out," but it is really "starved out," and can easily be prevented if the proper attention is given to the plants. As soon as the flowers commence to grow smaller, broadcast around each plant a small handful of pure bone meal and nitrate of soda, in proportion four parts bone to one part soda, and carefully work it into the soil.

In planting the roots or tubers, place them on their sides with the eye as near the bottom as possible; cover only two to three inches deep. As soon as the shoots appear, remove all but the strongest one, and pinch out the center of that one as soon as two or three pairs of leaves have formed, thus forcing it to branch below the level of the ground. As the plants develop, the soil is filled in gradually by subsequent hoeings. By this method the entire strength of the root and the soil is concentrated on the one shoot, causing it to grow vigorously; while the pinching back not only causes it to branch below the surface of the soil, and thus brace it against all storms, but also removes all of those imperfect, short-stemmed flowers that appear on some varieties. If the plants are pinched back low, as described, there is no danger of the branches splitting down, as the soil around them will hold them securely in place.

As soon as the plants are killed by frost, lift the roots, and, after removing all the soil possible from them, allow them to dry in the air for a few days under cover, when they should be stored in the cellar or some other cool place secure from frost and yet not warm enough to start premature growth. This gives the tops chance to die down before they are cut off, while the clinging soil falls away readily. If the cellar is very dry or is not frost-proof, put the roots in a barrel or box



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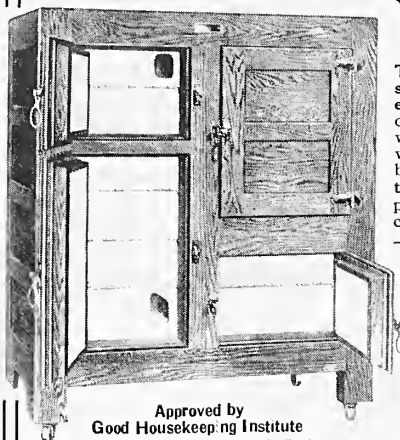
First send for our free portfolio containing many beautiful plates of garden decoration. Then lay out your garden plans or let our artist offer free suggestions. Have a real outdoor living room this summer.

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YOUR doctor will tell you that a refrigerator which cannot be kept clean and wholesome like a **Monroe** is *always dangerous* to the health of your family.

The Monroe is the refrigerator with food compartments of genuine solid porcelain ware—modeled in one piece—over an inch thick—every corner rounded. Not cheap enamel porcelain on a metal base, but one piece of beautiful, smooth, white, unbreakable porcelain ware which can be kept free from breeding places for disease germs that poison food which in turn poisons people. Nothing to crack, chip or absorb moisture as easily cleaned as a china bowl—not a single crack, joint, corner, or any other lodging place for dirt and the germs of disease and decay.

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about refrigerators which explains all this and tells you how to select the home refrigerator—how to have better, more nourishing food—how to keep food longer without spoiling—how to cut down ice bills—how to guard against sickness—doctor's bills.

Read what physicians and others say about the wonderful ice-saving and health protection the Monroe affords:

"Using about one-third the ice the others did," T. G. Mackie, New Orleans. "Cut ice bills from \$36 to \$3." T. W. Williams, Milwaukee. Will save 50 per cent of ice over ordinary refrigerators," C. E. James, Chattanooga. "Reduced ice bills nearly 40 per cent." Dr. B. H. Wells, Southport, Conn. "Saving 60 per cent on my ice bills," H. W. Webb, Columbus, O. "Don't use much over half the ice we did before," Dr. G. F. Beasley, Lafayette, Ind. "Much more economical than any other of several I have had," Dr. O. B. Shreve, Salem, Mass. "Saved about 50 lbs. of ice per day over another make of same size," W. M. Rieke, Paducah, Ky. "Monroe twice as large as former refrigerator, cut ice bill more than half," S. Dickson, West Orange, N. J. "Economical in use of ice; and preserving in best manner articles placed in it," Dr. R. E. Starkweather, Evanston, Ill. "An ice saver, a germ preventor, hence a health preserver to any family," Dr. Chas. Hupe, Lafayette, Indiana.

Monroe Refrigerator Co. (Established 1868) Sta. 4C, Lockland, Ohio

and cover completely with dry sand or some other suitable material, such as sawdust or tanbark, to prevent freezing or loss of vitality by drying or shriveling.

There is such an endless variety of fine dahlias that it is impossible to have one specimen of each in a small garden. My policy has been to plant two good roots of each of the chosen varieties, so as to be fairly sure of success.

Time to Set Out Asparagus, etc.

(Continued from page 273)

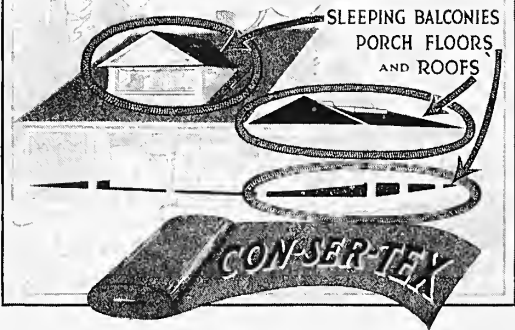
each a generous depth and width, and put in a good layer of manure, working this into the soil at the bottom and stamping it down. Fill in the soil to 4" or so of the top, and set the roots on this surface, and cover them in. Where only a small bed is to be set out it may be made 5 or 6 feet wide, putting in three rows, one in the middle and one a foot or a foot and a half from each edge. The plants should be set a foot apart. Rhubarb roots should be set 2 or 3 feet apart each way. If you are transplanting clumps of your own or getting some from a neighbor, do not set the whole clump into one hole; cut it up into several pieces. You will get fewer stalks from a hill in this way, but they will be a great deal better. A few plants of sea-kale should be put in with the asparagus and rhubarb, as they are treated in much the same way—that is, they make their growth during the summer and store up plant food for a rapid growth early in the spring. The plants are heavily mulched in the spring, to blanch the immature leaf stalks, which are very delicious.

Dormant roses should also be set out early this month. These are usually budded or grafted plants. They should be planted deep enough so that the union between stock and scion comes at least three inches below the surface, otherwise the stock is likely to throw up a cane which will destroy the growth above it. Dormant roses should be pruned back very severely when planted. Leave only three or four buds or eyes to each branch. Be careful to cut just above an outside bud, so that the new growth will be made toward the outside of the plant. Above all, get them in solid. A dormant rose will stand tramping on with both feet, and while that method of treatment is not recommended, it is better than handling it as if it were glass, and gently covering the earth in about the roots with a gloved hand. Be careful not to expose the root to dry winds or bright sun while planting; it is an easy matter to carry them about in an old basket, covered at the roots with moss or damp burlap.



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Does It Cost Much? Con-ser-tex is very inexpensive. Cheaper than most other roofing materials. It is easy to put on—thus saving time and eliminating trouble.

Does It Do the Work? It never rots or stretches. It hugs the porch or roof surface tightly. Neat and artistic in appearance. It deadens sound, is water proof and weather proof. Defies treading, coal gas, or any other wearing influence.

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Anything Else? Yes, we will send you a sample of this wonderful fabric. A moment's investigation will show you its superiority over Cotton Duck and other roofing fabrics.

We will send you descriptive folder and price list.

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WARM AIR GENERATOR

237 James Street, Syracuse, New York

Dealers in all Principal Cities

In Grandmother's Garden

(Continued from page 241)

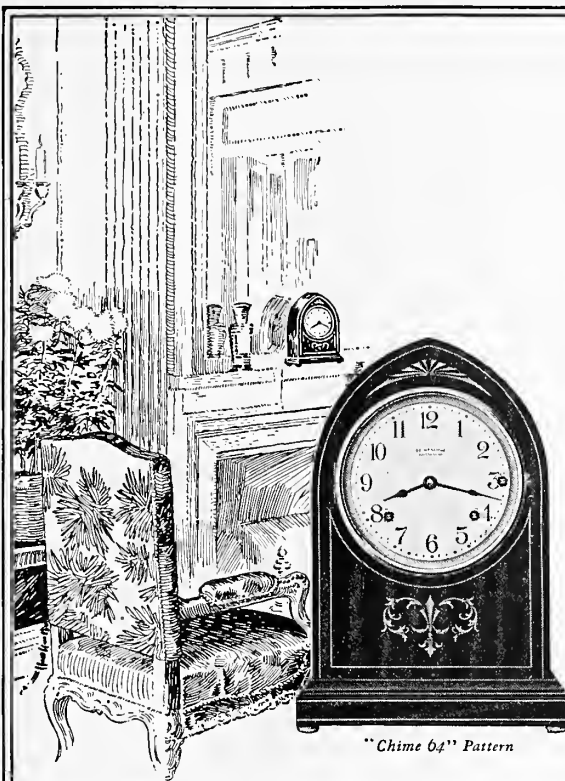
our play. What does a city child do to-day without the charm of a garden? Even the "pin-a-poppy show" has passed away. One never hears of it now, but we who pasted the lovely bright flowers and leaves on paper and covered them with glass can still remember the thrill experienced when in response to the invitation "A pin, a pin, a poppy show—Give me a pin and I'll let you know" the wonderful show was uncovered. Then followed such gasps and expressions of admiration! No, the modern child knows nothing of the real pleasure of a garden.

Of course, we must have done damage to many things in Grandmother's garden, but if we did she was kind enough to overlook it all. She must have known that many of the morning glory buds failed to open. It was such fun to take firm hold of those pointed buds and pinch and hear them pop.

Our playhouse was out under the apple trees. Never was there more wonderful housekeeping nor more varied and original meals. The garden furnished everything, even much of our clothing and adornment when we really "dressed up" for dinner. The lilac leaves pinned together with their stout stems made charming caps, belts and aprons. The flowers of the lilac were equally useful. One blossom put into another and another and lo! a lovely chain was ours. We fashioned the same thing from the larkspur blossoms and from the dandelion stems. The latter were always popular, since the work of making a dandelion chain was more speedily accomplished. We loved the dandelion curls and hung them over our ears, and, with fuchsia blossoms, or, on rare occasions, peanuts (split at one end and pinched onto our ears) for ear rings, we felt that we were dressed for any swell occasion.

Grandfather always had corn in his garden—the blue, sweet corn. Whenever I see it I recall the day when Grandmother entertained a very stylish city friend. It was in the day of the bang, and when we children beheld this fashionably-dressed lady with a straight bang of blonde hair covering her forehead, we gazed in amazement at first, and then flew to Grandfather's cornfield. The corn was just right for it, the silk the exact shade. It did not take us long to arrange it on our heads in an up-to-date bang; and at dinner we appeared a little self-conscious, perhaps, but well satisfied with the style of our hair dressing.

On our table in the playhouse, spread with a cloth made for our use, we served most remarkable meals. We had few dishes; but what of that, when leaves made adorable plates and platters and even cups in an emergency! Jack-in-the-pulpit flowers served as pitchers; little thorns from the thorn apple trees made splendid forks, and such a lot of things we found to eat!



"Chime 64" Pattern

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Chime Clocks

OUR Chime Clocks share with all Seth Thomas Clocks the virtue of constant accuracy. The music of Westminster or Whittington and Westminster chimes is an added charm to win your admiration.

The clock pictured here is Seth Thomas Chime 64. It has a silvered dial set in a mahogany case, plain or inlaid marqueterie design. The movement is eight-day. The chimes play every quarter-hour or can be silenced.

Seth Thomas Chime Clocks are made in varying shapes and sizes. They are priced at \$15 to \$50. The design shown here, and others similar, may also be had with hour and half-hour strike instead of chimes.

Your jeweler will give you full information on Seth Thomas Chime and Cabinet Clocks.

*Descriptive booklet with advice
on care of clocks upon request.*

SETH THOMAS CLOCK CO.

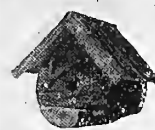
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WHETHER for open lawn, garden spot or driveway—our catalogs will supply you with ideas for everything needed on the modern country place.

In addition we prepare special designs in garden ornaments to meet special architectural requirements.

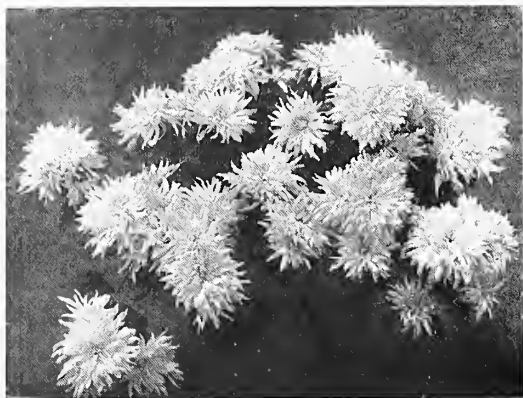
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"ETOILE D'OR"

Totty's 'Mums

The above is one of the Novelties in the Early Flowering section of Hardy 'Mums, that we are distributing this year.

We catalog over seventy varieties of this wonderful type, that will give you a continuous succession of flowers from the middle of September until late in November, without the protection of a greenhouse. Handling as we do, more Chrysanthemums than any other house in the world, we can supply your wants for any purpose and in any quantity. Our catalog which describes over four hundred varieties of all types of Chrysanthemums, and a full list of Novelty and Standard Roses and Carnations will be mailed you on request.

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SPECIAL INTRODUCTORY OFFER

We will send a dozen Assorted Early Flowering 'Mums, and include a plant of "Etoile d'Or," prepaid to any address for \$2.00.

CHARLES H. TOTTY

Specialist

Roses Carnations Chrysanthemums
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The leaves of the sorrel and nasturtium with berries of elder or barberry made our salad and our tea was either of mint, caraway or catnip. In cherry time a dish of the red cherries, piled high on a pie-plant leaf, served as centerpiece and dessert. The robins scolded us when we picked the cherries and the orioles were always in the tree when it was in flower as well as in fruit. Because we loved the birds and hesitated to disturb them we really did not get as many cherries as we longed for.

Another delicacy on our table was the cheese from the hollyhocks, and we found that nothing was more decorative than a pretty green leaf piled with berries from wahoo, bittersweet, elder, Tartarian honeysuckle, mountain ash, dogwood, snowberry and the little black seeds from the tiger lilies in the fall.

Do girls to-day know that hollyhocks make lovely dolls? Turn down some of the petals, tie them, and an elaborately attired lady is the result. The foxglove and trumpet flowers exactly fitted our fingers, and we wore them often as gloves.

When the Canterbury bells were in bloom we used to watch for the bee to crawl into the bell of the flower and then pinching the end; what a thrill went through us as we felt him buzz and beat and try to force his way through the bursting side! I remember doing this once too many times, and the bees were never again disturbed by my fingers.

The long needles of the pine made fine things to sew with, and were ever bags more adorable than those we made by pinching and blowing up the leaves of the live-for-ever? The queen of the meadow grew in this garden; marigolds were there and the mourning bride (the pincushion flower) and the garden heliotrope (valerian). The cats always liked to roll in this, and how they would scratch at the elder bushes!

We buried many a pet canary under the lilacs. Elaborate preparations were made for these burials, to which all of the girls were invited (not the boys, for they laughed at us). Into a pretty little thread-box, lined with ferny leaves, the bird was tenderly laid, and over and about it we tucked the sweetest flowers. Then the cover was put on and our choicest larkspur wreath was laid upon it; then the sad little procession; the digging of the grave and its covering, and we were ready for the song. Above us we heard the laughter of the martins, the glad note of the orioles and the happy flight song of the goldfinch. Wrens were chattering and the robins calling. In a way we resented all their songs of happiness. We loved best, that day, the little peewee and his plaintive call. We sang the same song at every burial. There was no partiality shown. Possibly the song was not at all appropriate, but these words came from sorrowing hearts:



Salpiglossis

(Orchid-Flowering)

as illustrated on the front cover of our Catalogue, is a distinct favorite with those who have become acquainted with this delightful annual.

The orchid-flowering strain branches freely from the main stem, forming fine, spreading plants, flowering from all branches, making it invaluable for cutting.

Following are a few of the popular varieties:

	Pkt.	1/4 Oz.
Purplish Violet.....	\$0.10	\$1.00
Pink, Bright Pink.....	.10	1.00
Light Blue, Veined Gold.....	.10	1.00
Golden Yellow, Rich color.....	.10	1.00
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For 25 cents, in coin or stamps, we will send one packet each of the six separate varieties listed above, which if purchased separately would cost 60 cents.

For description and prices of other novelties and specialties in flowers and vegetables, as well as standards, write for a copy of our 1915 Spring Catalogue.

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"The Wood Finishing Authorities"

"Brother, thou wert mild and lovely,
Gentle as a summer breeze;
Pleasant as the air of evening,
As it floats among the trees."

Not remembering the words of the other verses we sang the first one over and over until we felt that due respect had been given the little bird we mourned.

In the fall great golden balls hung from the porch—fruit of the gourd vine. Nothing could have made prettier balls for our games. When the evening primroses blossomed "with a silken burst of sound" we watched them in the twilight, listening ever for the sound that we hoped to hear as the yellow petals popped open. We never heard it, and neither were we able ever to light the gas on the seed pods of the Fraxinella. Both of these things, we decided, were fables gotten up by the older people to please children.

There was a witch hazel bush, however, that always delighted us. After all else had gone, out in the garden we would find the spidery little blossoms of this bush, and never was a fall complete until we had taken into the house some of its branches. It was not the flowers that fascinated us. The heat of the room made the seed pods expand, and how the hard little black seeds would snap and shoot around the room!

Grandfather once sat reading his paper when this cannonading was going on. He finally looked up from his reading and remarked that he supposed the house was old enough now so that its walls were entirely settled, but evidently not. We children knew what made the crackling noises, but we didn't tell.

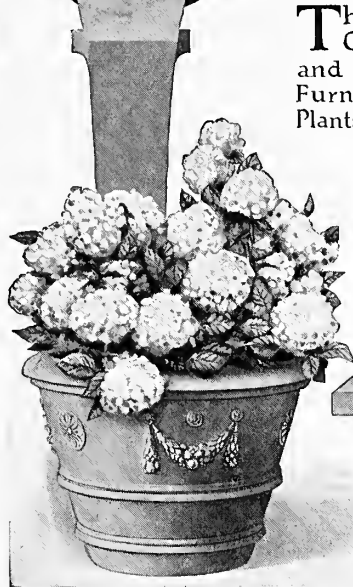
Really, the sweetest part of Grandmother's garden was down by the Persian lilacs. She called it her "garden of sweetness." In it grew such fragrant blossoms. There were mignonette and violets, valley lilies, tuberose, lemon verbena and lavender. Wall flowers bloomed there and heliotrope and sweet peas. A few plants of rose geranium were carefully tended, for Grandmother used the leaves in many ways. We often played near this garden, especially when the valley lilies were in bloom, for we loved their fragrance best of all.

Yes, a "garden is a lovesome thing, Got wot!" and the memory of such a garden in one's childhood is a blessed, comforting one. Many a time, when life has been hard and strenuous, when the journey has been dusty and tiresome, have I in memory slipped back to the cool, sweet shade in Grandmother's garden; to the rest and comfort and beauty of it all, and have blessed Grandmother for having brought us up in such sweet company.

Do you have trouble finding time for garden work? Possibly that's because you don't parcel out your time systematically. Glance over "How to Find Time for Garden Work," in next month's HOUSE AND GARDEN.

GALLOWAY POTTERY

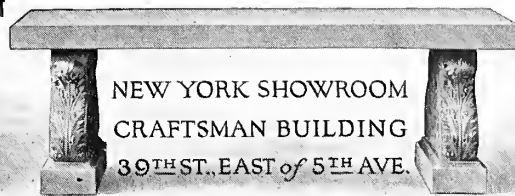
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Every garden plot, large or small, offers an opportunity for the expression of your individuality. Consider how much more charm your garden would have if you were to add only a simple stone bench, a sundial, or a bird bath. Our catalogue illustrating some of the models in our remarkable collection of garden ornaments will help you in your selection. When you are in New York, call at our warerooms and see the collection for yourself. You will enjoy the visit.

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Aluminum and Concrete
Nothing to rust—
Decompose or break.

Place your toe against the lever.
Push—'twill open nice and clever;
From the lever take your toe.
Back the lids will quickly go—
In a manner smooth as ever.

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is the solid cast aluminum cover. This gives lightness, strength and durability; no rusting or corroding as is the case with cast iron ones. The bright aluminum is pleasing to the eye and is easily located, even in the dark.

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The twin lids are so light that a slight touch of the foot to either of the spurs in the rear will swing them open disclosing an eleven-inch opening for depositing the garbage. When the foot is removed the lids swing back to closed position.

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(dirt bands) and when the ground is warm plant them in the garden without removing from the pots, and they will be ripe two weeks earlier. Tomatoes started this way at the Indiana Experiment Station yielded 4 tons more per acre and ripened 9 days earlier. 300 3-inch dirt bands or 300 4-inch prepaid by mail for \$1.00

P. B. CROSBY & SON

Catonsville

Maryland

Efficiency in the Flower Garden

(Continued from page 267)

engaged to plan a house, if he should look through a lot of builders' catalogues and select ornamental doors, the newest wall papers, paint, lighting fixtures, plumbers' supplies, tiling, trim, finishing, and shingle stains, and having got his materials together, should then attempt to construct the houses. Of course, he goes at it the other way round. That is the attitude of mind you should try to get in garden planting.

But the contractor's job, however, is no less important than the architect's. After you have turned all these things over in your mind carefully and finally made your selection and sent in your order, it is just as important to know *how* to handle your plants to give them every chance of success. Many hardy perennials may be effectively used in small groups or clumps or even as individual plants, but far more often they are used in the mixed hardy border or bed. The success you may have in growing hardy plants will depend more than anything else upon the thoroughness with which the border for them is prepared. Most of them will grow, some of them will thrive, in ordinary, good, rich, garden soil. But to make sure of success, and to make sure of the best results, the border should be trenched to a generous depth its entire length. This is particularly necessary if the soil is at all wet or heavy or is poorly drained. There is but one way of doing it properly, and that is by getting right at it and making a man-sized job of it. An hour or two of puttering about with a spade or a fork, with your collar on, will accomplish little in this direction. The making of a border is a day's work for a couple of men used to handling pick and shovels—and in a very hard or stony soil, or for a generous-sized border, it may take them longer than that.

First of all, stake out the outlines of the proposed border. Then have it excavated to a depth of two or three feet, throwing all the sods and top-soil to one side and the stones and subsoil and roots to the other. Any stones or coarse gravel may be saved for drainage material. If there are not enough of these, as in most cases there will not be, coarse, cold cinders, or brick or mortar will do, and put in a layer several inches thick. Cover this with the sods removed from the surface, and replace them upside down. In place of sod a little strawey manure or leaves may be used—anything that will keep the dirt as it is thrown back in from packing down closely into the drainage layer. On top of this put a layer of compost a foot or more in depth, enough to come within six inches or so of the top of the trench. This compost may be made of garden soil, a good, heavy loam being preferable, and manure mixed about half and half with a generous sprinkling of bone through it. The top six inches or so of the trench



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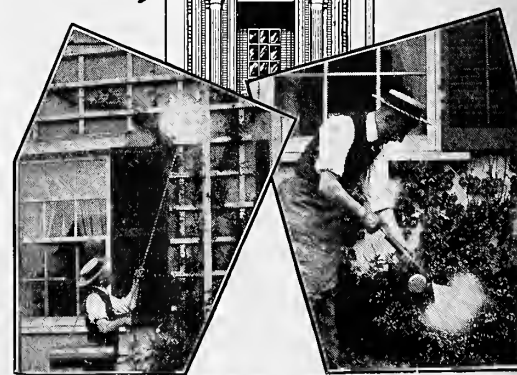
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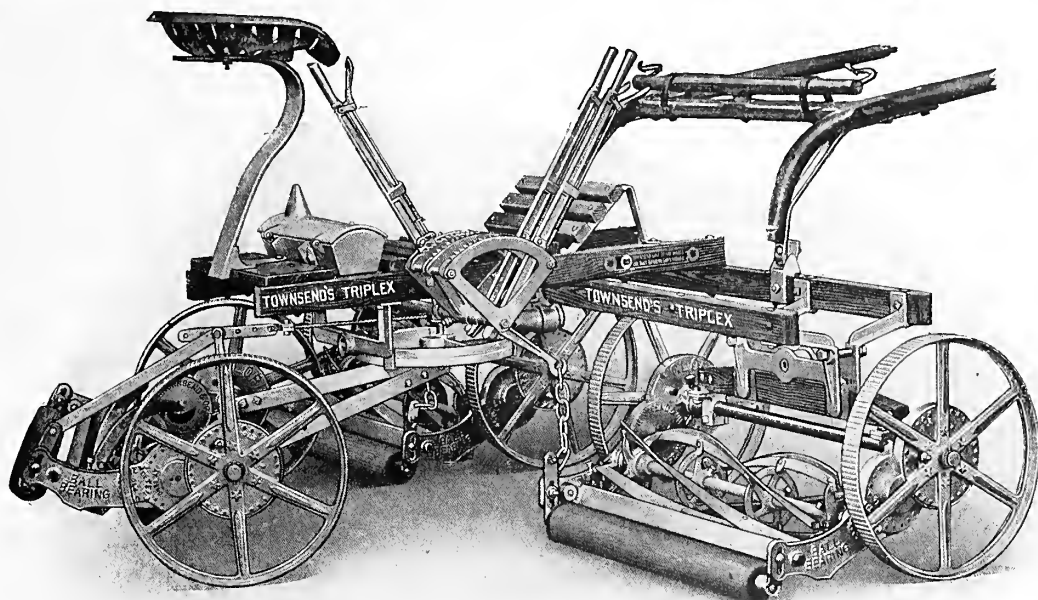
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Floats over the uneven ground as a ship rides the waves. One mower may be climbing a knoll, a second skimming the level and a third paring a hollow. Does not smash the grass to earth and plaster it in the mud in springtime, neither does it crush the life out of the grass between hot rollers and hard, hot ground in summer, as does the motor mower.

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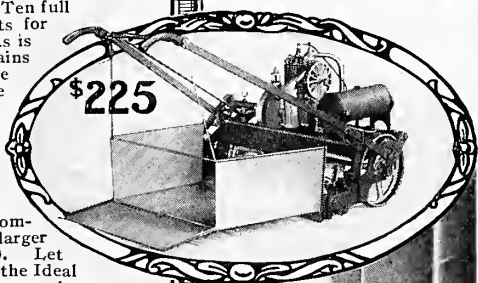
The Ideal Junior Power Mower will keep your lawn in prime condition, and furnish a setting to delight every owner who takes pride in the appearance of his lawn.

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should be filled in with good, rich loam, rounded up well above the surface, but flat enough so that water will not run off to the edges. Allow for the setting of the soil, which will amount to two or three inches before the season is over. Both compost and soil, as they are put in the trench, should be made fairly firm with a good packing down, not hard enough to make the soil hard or lumpy.

Before you begin to set the plants, you should have a plan showing exactly where each should go. Then take a section and arrange the bed, and arrange these clumps in order ready to plant. It is better to do this rather than to begin planting one by one. Do not expose the plants to wind and sun any more than possible during the operation of plant setting. If the soil is at all dry, water may be used under each plant as it is set. But usually at this time of the year this will not be necessary. The various plants should be set slightly deeper than they have been growing before; or if they are from pots, an inch or so over above the ball of earth. Plants that have been kept wrapped up and boxed and kept from the light for several days should not be immediately exposed to the strong sunlight. If they show a tendency to wilt, shade for the time being with papers, plant them as the sun begins to weaken in the afternoon. If dry weather follows and the beds require subsequent watering, before the plants become established, use a fine spray and go over the bed several times until it finally becomes thoroughly saturated. The careless use of the hose on a newly set border may do considerable damage by washing and packing the soft soil. The plants should be set in as firm as you can possibly get them. If there seems to be danger of pushing them too far down, then the soil in the bed has been left too loose.

The border already established, and individual plants or clumps about the ground should come in for their share of attention in the general spring "cleaning up." Beds that are still in good condition should be forked up after the winter mulch has been taken off and a dressing of manure and bone meal worked into the ground around and between the plants as thoroughly as possible. This should be done quite early, before new root growth and activity begin. A root pruning, even though quite severe, while the plants are semi-dormant, will, with most things, do little or no injury. Around lilies, bulbs, iris and other things out of the ordinary root formation one must be reasonably careful.

Hardy plants that have begun to crowd, either in clumps by themselves or in the mixed border, can be taken up, divided and replanted and shifted to other positions. If you need more plants than you have, each clump or crown will usually make from three to six good plants. If your garden is already well supplied, take one or two of the best pieces or "crowns" from each plant and dispose of the others to your less fortunate friends.

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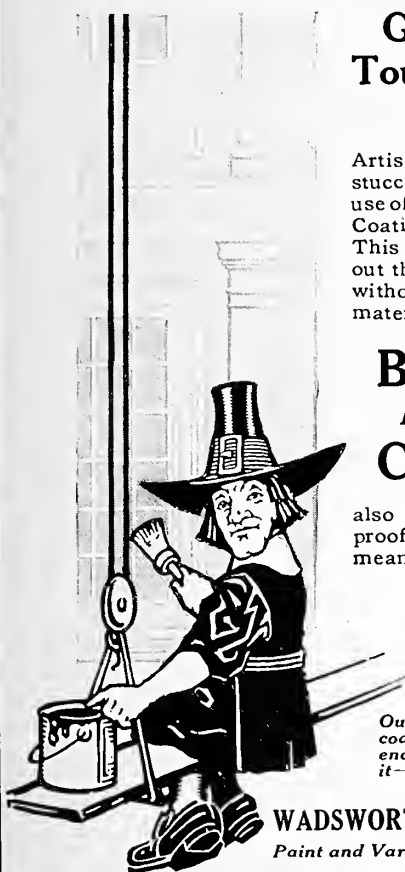
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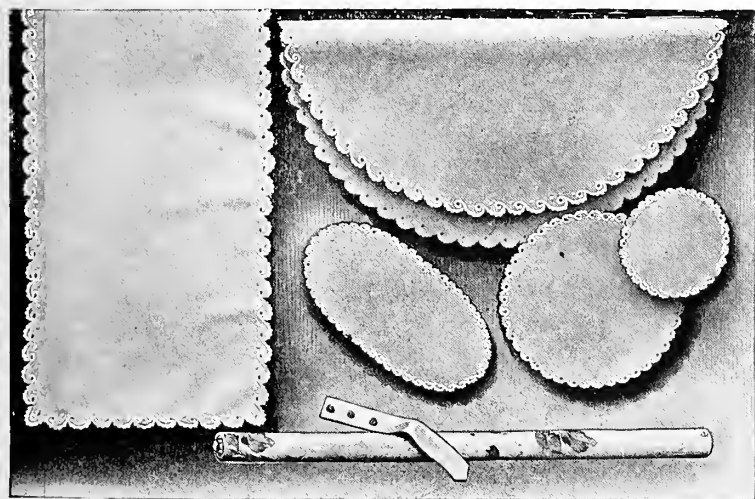
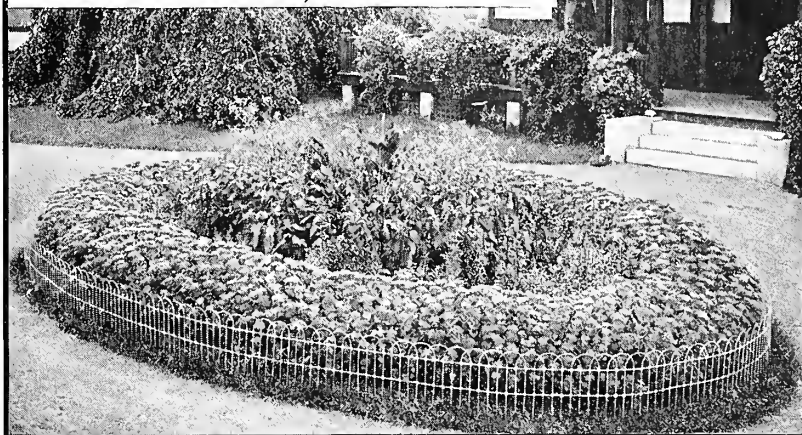
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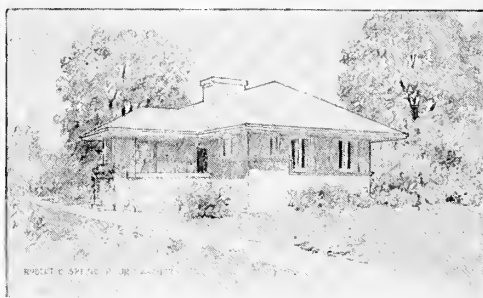
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SOUTHERN GARDEN DEPARTMENT

Conducted by JULIA LESTER DILLON

Inquiries and problems for this department will receive prompt attention. Please enclose a self-addressed stamped envelope for reply

MORE SEED-SOWING

BY the time the March seed-sowing is over and one draws a long breath, April is here, and more seed must be planted whether one wishes to do so or not.

First come the asters. The tribe has so increased that it is most difficult to decide which of the lovely varieties one would rather have, since it is not possible for most of us to plant them as Wordsworth saw the daffodils and Mrs. Ely has the asters ten thousand to a summer.

Because mid-summer blossoms are rather scarce in the South, the early varieties are desirable, and, of these, the best are the "Queen of the Market" varieties in pink, white and lavender. The blossoming time of these is later in the South than in the North and East, where it is not so warm, but they may be counted on for August blossom. The Crego Giant Comet Asters furnish the handsomest blooms of all, and come in September, while the real fall blossoms of the Late-Branching kinds should by all means be planted. If space is limited, white for the early varieties, lavender for the mid-season, and pink for the late bloom, would give color variety as well as succession in bloom. They should be planted in the open where they are to flower, and thinned out, if necessary, later on.

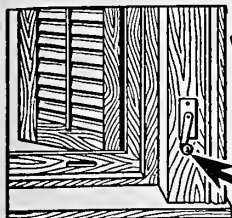
Seed of white and blue *ageratum* sown now in the open will make masses of color from late summer until frost. They are largely planted in the gardens of those who leave their homes in summer and seem to welcome the owners on their return as heartily as if they had received unremitting care.

When there is room in the background, along walls or fences, or boundaries, for masses of tall flowers, Cosmos and Dahlias should be planted. The new varieties of Cosmos, early Large-flowering, Lady Lenox, and Mammoth Perfection, are offered by all reliable dealers, and should give fine results, both for flowers in quantity for cutting and for masses in the borders.

There are many varieties of Dahlias, in single and double, in fluted and quilled, mammoth and dwarf, which come to bloom in the fall from seed sown in the open this month. They are like the "prize-boxes" which allured in childhood days, you never know what you are to get until blossoming time. This is fatal to a color scheme, but flowers are usually growing fewer about the time the dahlias bloom, and among the brilliant green tones of the foliage they do make bright clouds of color among the more somber tones of autumn.

The most important seed-sowing of

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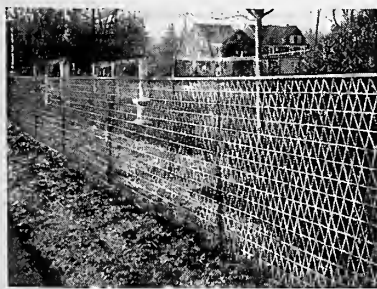
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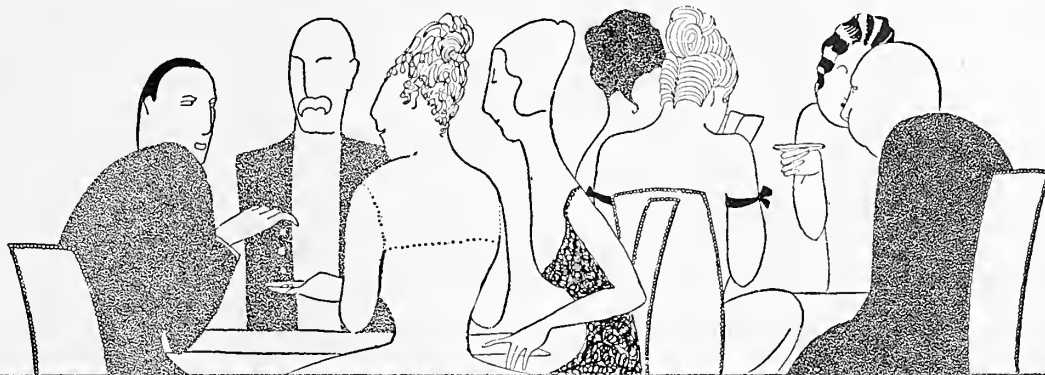
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THE TWENTIETH CENTURY FLOWER



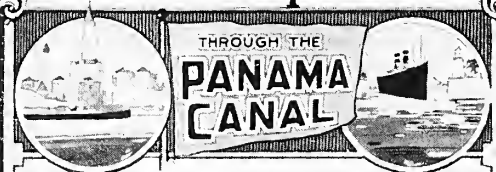
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Alexander's Up-to-date Dahlias lead the World; because they are perfect in type and shape, beautiful in color and, most important of all—free flowering.

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9 BROADWAY NEW YORK
319 GEARY ST., SAN FRANCISCO. AGENTS EVERYWHERE

April is that of the perennials, which germinate only while cool days and cooler nights are felt. The seed-bed should be prepared in a partially shaded situation in an unobtrusive part of the garden. The soil should be porous, rich and deep, and the seed sown in rows, clearly marked as to variety and color.

By the middle of August the plants may be transplanted into the places where they are to remain permanently, or else they may be removed to temporary quarters to wait for final transplanting after the summer flowers are cleaned out and the borders enriched for the winter bloom.

This sounds a little romantic, but, as I write this in mid-February, the Delphiniums are showing color in their buds, the Digitalis have flower spikes several feet tall, the Campanulas are beginning to send out their new leaf stalks, Platycodons are growing, Wallflowers are budding, and Aquilegias are strong and vigorous, getting ready for April bloom. From April seed-sowing to spring bloom of the next year seems a long time to wait, but these perennials bridge so beautifully the gap between the real winter flowers and the annuals, which cannot be counted on until late spring or early summer, that, if for this reason only, they should be in every garden. But they are in themselves so daintily exquisite, so pure in color, with heavenly blues rivaling richest orange, with golden yellow facing clear amethysts, with tall flower spikes in the border backgrounds and dainty masses of snow in the foreground, that they should be planted wherever there is a garden, a garden-care-taker and a garden-lover.

As to the varieties to be planted, there is not such a wide range of choice as in most of the annuals. Of the Aquilegias, the Caerulea, the Rocky Mountain Columbine, the Crysanthia, golden-yellow, and the Nivea grandiflora are the most attractive and beautiful. The red tones are often not pure in color and do not mix well with the clear blues, and for this reason the above-mentioned ones are preferable. The Coerulea Hybrids are grown by many with satisfactory results.

The lovely Campanulas in both dark and light blues, in white, and a delicate rose, are so delightful in the garden, such a bright spot of color in the shadows of the garden picture that no one should fail to plant them. Both the Campanula Medium, the single Canterbury Bells and the Calycanthema, the Cup and Saucer variety, are to be had in the colors enumerated, and cannot fail to please. The Campanula pyramidalis, the Chimney Bellflower, in blue and white, can be used where a taller variety is needed.

The Gold Medal Hybrids are favorites among the Delphiniums. The Belladonna, Caelestinum and Formosum, Chinense and Chinense album, are wonderful in their tones of azure, that range from the pure white of the Chinense album to the deepest blues of the other varieties.

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and PLAYER PIANOS

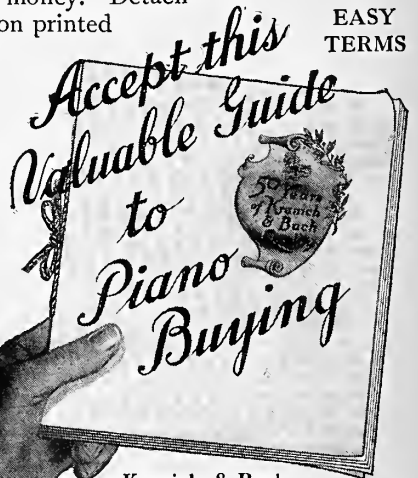
Preferred by music lovers because of tangible, demonstrable, really remarkable musical superiority that is apparent to any one who will investigate and intelligently choose between real and fancied values.



If
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a piano or player piano it will pay you to get the beautiful Golden Anniversary Booklet that we send without charge. It will help you to avoid disappointing purchases and waste of money. Detach the coupon printed below and mail it today.

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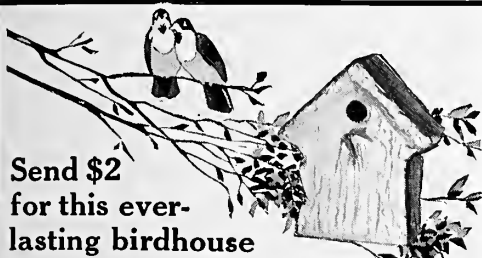
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Frances Duncan's Gardencraft for Children



Not the photograph of a Country Place, but of FRANCES DUNCAN'S Miniature Collapsible Country House with the Plant-as-You-Please-Garden.

A Most Joyous and Fascinating Pastime for Children
An ideal Easter gift for anyone who loves a garden. Of practical value to the grown-up gardener. Endorsed by Montessori. In use by Margaret Deland, Louise Klein Miller, and other garden-loving folk of high intelligence. Send 25c for chicken yard with portable coop and pedigree fowls or 2-cent stamp for catalog of Gardencraft Sets.
THE GARDENCRAFT TOY COMPANY, Workshop, 1 Milligan Place
(6th Avenue between 10th and 11th Streets), New York City



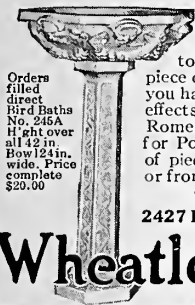
Send \$2
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Made of genuine Wheatley Pottery in beautiful rustic effects. Imperishable, weatherproof, cheaper in the end than wood. Attached in a jiffy; never requires further attention. Scientifically constructed to attract birds. You'll never regret giving your feathered friends a home. Shipped on receipt of \$2. Satisfaction guaranteed or your money back. Folder showing different designs sent on request.

Beautiful Wheatley Bird Bath

Give to your garden or lawn a touch of old Italy in this lovely piece of old ivory tint pottery. Here you have the exquisite colorings and effects of the pottery of Florence and Rome. Weatherproof, durable. Write for Pottery Portfolio, showing scores of pieces. Order direct from Pottery or from nearest Wheatley dealer.

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Height over
all 42 in.
Bowl 24 in.
wide. Price
complete
\$20.00

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Most American homes have some of it. Some American homes have nothing else. LIMBERT'S "EBON-OAK" Furniture, deeply inlaid in the solid wood, is now for the first time introduced in Native Oak. Exquisite Inlay and Master Craftsmanship make it a distinctive LIMBERT offering. Lovers of the LIMBERT Line will eagerly add it to their collection. New buyers of furniture will select it because it stands out so prominently beautiful. LIMBERT'S "EBON-OAK" is the rarest combination of sturdiness and daintiness in furniture imaginable. You should examine "EBON-OAK" before you buy your needed furniture. Write us for the name of your nearest LIMBERT dealer, if you wish. The Trade-Mark clipped from the right hand corner of this ad, if sent with the Windmill in the upper corner, will bring you the LIMBERT Furniture Book showing 300 Holland Dutch Arts and Crafts Designs.

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House & Garden

The Magazine That Tells You How

Fourteen Practical Articles— Scores of Telling Pictures

Look
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Blossoms

IF you read "In a Colonnade Garden" you will ever after be wanting just such a place. The pictures will haunt you.

IF you are in doubt about putting roses in your garden, your fears will quite subside after getting the facts from "The Culture of the Rose."

IF you find that gardening takes too much of your time, arrange the work according to schedule, as shown in "Finding Time for Gardening."

IF you have an acre and want to create a lovely garden on it, read what was done by Caparn on a small property on Long Island Sound.

IF you've ever feared a bull terrier, you will cease to fear him after you have been introduced by Williams Haynes to this "Good Dog with a Bad Name."

IF you can't go to the country this year, make the country come to you, as did one woman who tells of it in "Outdoor Life in a City."

IF you want to know the secret of maintaining your electric car at a minimum follow the directions given by John R. Eustis.

And, finally, if you've not been following the series about "Your Saturday Afternoon Garden," "Efficiency in the Flower Garden" and "Woodwork in Interior Decoration," it's not too late to start with the May issue.

McBride, Nast & Co., Publishers
31 Union Square North
New York

YOUR GARDEN

Will never be a disappointment if you plant and work it with tools like these—the operator walks upright, the seeder sows accurately in drills or hills and with the cultivator points, side hoes and plows you can do more in one hour than in a whole day the old way. Result, a much better garden and more pleasure in it.



IRON AGE Garden Tools

give you a large line to choose from. See your local dealer and ask us for booklet "Farm Home and Market Gardening with Modern Tools."

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The Stephenson System of Underground Refuse Disposal

Keeps your garbage out of sight in the ground, away from the cat, dog and typhoid fly.

Opens with foot. Hands never touch.



Underground Garbage and Refuse Receivers



A Fireproof Receiver for ashes, sweepings and oily waste in house or GARAGE.

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In use 10 years. It pays to look us up.

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CONSERVATORIES AND GREENHOUSES

are full of new features and new ideas which make them more productive, more beautiful and more easy to operate.



King Garden Frames—with Hinged Sash, easy to handle and very productive.



See what a difference two weeks makes in your lettuce. It will pay you to write for descriptive literature, mentioning what you need.

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A GREAT BARGAIN IN FINEST QUALITY BULBS

I have secured an option upon a large quantity of the following choice varieties, which I can supply, while they last, at the prices quoted.

AMERICA, finest pink; large flowers.....	100 1,000
AUGUSTA, pure white; large flowers.....	\$1.25 \$10.00
BARON HULOT, beautiful rich blue.....	1.50 12.00
BRECHLEYENSIS, brilliant vermilion-scarlet.....	2.00 17.00
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TEN EACH OF THE ABOVE 100 BULBS, \$2 (Regular value, \$5)



These bulbs were grown under contract by a prominent Holland grower for the French, German and Russian trade. The contracts were broken on account of the war, and the grower is compelled to sell at a great sacrifice.

I will guarantee that they are of the same FINE QUALITY as the goods I regularly deliver to my customers.

They are packed in lots of 100, and not less than 100 bulbs will be sold to a customer at these prices. This is the greatest bargain ever offered in Gladioli Bulbs, and the entire allotment will be quickly taken. Compare these prices with any catalog and send your order with remittance today.

A. B. Vanderbeek
174 Broadway, Paterson, N. J.

Warming Devices for the Kitchen

(Continued from page 271)

warming oven may be heated by lighting the pilot burner. In gas ranges having two baking ovens, one is always available for a warming oven by using the pilot burner. Even with these facilities it is a great advantage to have some kind of supplementary warming appliance. In kitchens heated by steam or hot water this is easily managed by purchasing flat-topped grills to fit over the kitchen radiator. These grills come in different sizes, and may be painted the color of the radiator. With these the heat of the radiator is always available to dry kitchen towels, pots and pans, and the like. Both dining-room and kitchen radiators may be thus equipped. The grills cost from \$1.25 to \$1.50, according to size. The dining-room radiator grill is very convenient for warming dishes that do not need to go to the kitchen at all.

In homes where it is possible to have special warming facilities in the pantry, the closet where the table service is kept may be warmed by having heated coils pass under the shelves. In other special cases special pantry radiators are manufactured which have two shelves made of coils heated from the furnace.

In even the simplest home, this need may be met by having a shelf built back of the three-burner Junior gas stove in the kitchen. In such a case the gas stove should be set out a little from the wall. The shelf may be made the same height and covered with zinc. A portable oven may be heated on a regular gas burner and then set back on this shelf to serve as a warming closet for the dishes. In such a case it is well to have, in addition, a two or four-shelf steamer, in which food may be placed in the serving dishes and kept hot until it is ready to be put on the table.

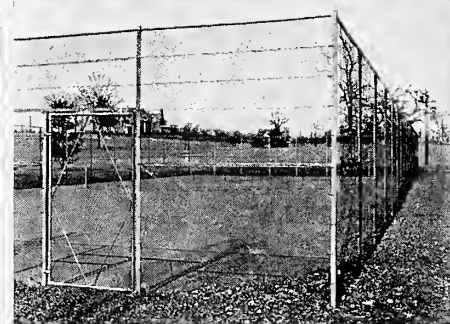
The Inviting Hall

(Continued from page 254)

coat, costs but little, if any more. For the hall of ordinary width the foregoing treatments will all be found satisfactory, but there is an additional latitude in the choice of papers. A light, gray paper, with a foliage pattern, or some of the revived Chinese patterns with a light ground, or even some of the old landscape block printed papers in patterns that have been recently revived may be recommended.

For halls that are virtually rooms, wood is the only fit flooring. As people will sit there, a tile, stone, or concrete floor would have to be heavily rugged or carpeted all the time, in which case it would not particularly matter what the floor was made of. With regard to color, these living-room halls may be treated exactly as any other room, but it will generally be found safe to stick to the principle of light walls and light woodwork, unless the architectural motif of the house obviously demands some other treatment.

In any case where the ceiling is unduly



Tennis Enclosures

DON'T spend your money on enclosures made with wooden posts and bulgy chicken wire. They are far from attractive, require annual repairs, and soon entire replacement.

A slight additional outlay will secure one of our all-steel fences, made with stocky, rustproof angle posts and anti-bulge heavy wire netting. Practically indestructible.

Don't wait until the playing season is here, but send your diagram and get our estimate and catalog now.

American Fence Construction Co.

100 Church Street, New York City

A Thought on Rhododendrons and White Pines

As an all-year round shrub, the Rhododendron has no equal. Glorious in bloom; always beautiful in foliage.

If you want choice, sturdy plants, every one full of bloom buds, then we have what you want. Prices are right.

When it comes to evergreens, the white pine is quite the most satisfactory. Grows quick. Thrives on practically all soils. At all stages of growth is beautiful.

We have an exceptional assortment of fine, root-pruned specimens. The prices are more than reasonable. Come and pick out what you want. Or send for catalog.



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DODSON HOUSES WIN SONG BIRDS TO YOUR GARDEN

Free Book tells how to attract Bluebirds, Wrens, Martins, Flickers, etc. to live near you. Thousands of Dodson Bird Houses successful all over America. I've been building bird houses for 19 years. Get a Dodson Bird House and have birds this summer.



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Sparrow Trap \$5.00

Bluebird House—Solid oak, cypress roof, \$5; Purple Martin House—26 rooms and attic, \$12—with all-copper roof, \$15; Flicker Houses, \$2.50 to \$5; Chickadee or Nuthatch houses, \$1.50 to \$3; Bird Baths—Zinc \$7, Cement, \$17.

The famous Dodson Sparrow Trap catches sparrows automatically—as many as 75 a day. Price, \$5. Get rid of sparrows; song birds will return.

All prices quoted are f. o. b. Chicago.

Write for free illustrated book about birds.

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Mr. Dodson is a director of the Illinois Audubon Society

\$1 Get Ready for the Song Birds

Give Our Song Birds Food and Shelter

Including 3-Hole Entrance Pat. Applied For.

ALL-IN-ONE RIDGEWOOD IMPROVED BIRD HOUSE

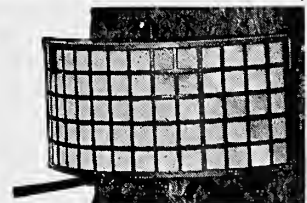
Very artistic; attracts Blue Birds, Chickadees, Wrens, Woodpeckers, etc. Can be hung anywhere. Has metal squirrel-proof opening. Is self-cleaning. Stained brown and green. Order direct.

Birds need shelter and food now. Order several of the beautiful bird houses shown here and a few suet baskets.

All shipment charges prepaid. Money back if not satisfied. Address

CHARLES E. WHITE Who believes in befriending the Wild Birds—our friends and neighbors.

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Pat. April 7, 1914. Get some of these baskets and keep the song birds home. Are strongly made of Brown Japanned Metal. Back curved to fit any tree or post. Used in parks, golf links, private grounds, etc. Howe's Crescent Shaped "Suet Grain" Cake fits basket. Price 25c per cake. Order with basket.

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The Goodrich Tire, like the trained athlete, is all brawn and muscle—no fat

THE old Olympic game promoters were great for what we call "form."

Symmetry, proportion, soundness and proper balance outbid bulging muscles for favor—yes, and out-won, too, just as they will today.

Mere bulk never was synonymous with endurance—and the truth of this statement drives home with a bang, when you apply it to tires.

IF thick, heavy tires were the last word in tire construction, we could wipe out of existence a Goodrich Research and Test Department employing seventy people. We would take off the road a battalion of ten automobiles, that run twenty-four hours a day and every day in the year, grinding tires of all makes to pieces, just for the sake of information to us and eventual economy to the user of Goodrich Tires.

There is where we learn to cut out of a tire the material which gets the user nothing.

Of course, when we stripped tire price lists of their padding—fictitious value—we expected rivals to say we had stripped our tires.

IT was their only "come-back." They had to say that, in stripping down prices to the point where they were fair to dealer and consumer and left no room for injurious price-cutting tactics, we had stripped our tires of some quality, too.

THE Goodrich Tire, like the trained athlete, is all brawn and muscle—no fat. It represents an achievement—the ability to cut out the extra costs of manufacture, the extra costs of labor, of extra, needless material, and to give you the best, long-mileage, high-standard tire in the world.

There are padded tires as well as padded price lists.

Don't pay for padding.

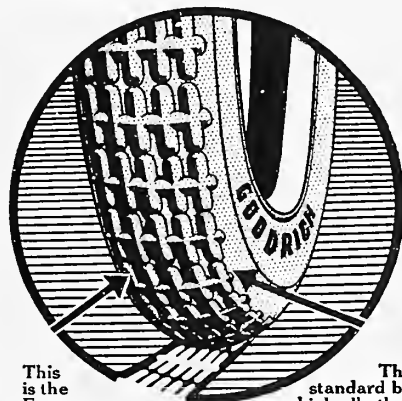
Now don't forget this—we are talking in the main about Goodrich Safety Tread Tires, for they represent ninety per cent of our factory output for resale.

Furthermore, while we have put the padded prices on smooth tread tires on the run, the evil of padded prices on non-skid tires still is in evidence, as shown in table below:

Note the following table of comparative prices on non-skid tires. Columns headed "A," "B," "C" and "D" represent four highly advertised tires:

Size	Goodrich Safety Tread	OTHER MAKES			
		"A"	"B"	"C"	"D"
30 x 3	\$ 9.45	\$10.55	\$10.95	\$16.35	\$18.10
30 x 3½	12.20	13.35	14.20	21.70	23.60
32 x 3½	14.00	15.40	16.30	22.85	25.30
34 x 4	20.35	22.30	23.80	31.15	33.55
36 x 4½	28.70	32.15	33.60	41.85	41.40
37 x 5	33.90	39.80	41.80	49.85	52.05

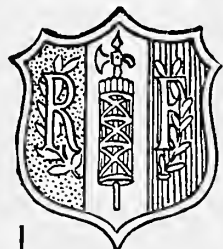
If you are charged less for any other make than Goodrich, they are taking it out of the tire; if you are charged more, they are taking it out of you.



This is the Famous Goodrich Safety Tread standard by which all other non-skids are judged

The B. F. Goodrich Co., Akron, O.

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Cut down your living expenses. You'll be astonished how easy it is to save time, labor, and money and get bigger and better crops when you use

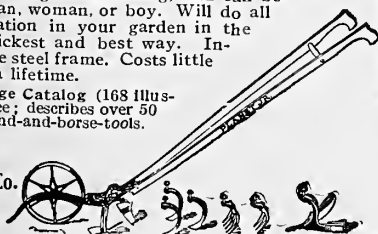
Planet Jr Garden Tools

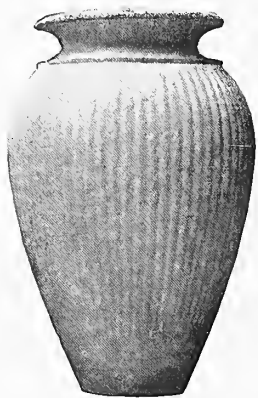
This No. 16 Planet Jr is the highest type of Single Wheel Hoe made. Light but strong, and can be used by man, woman, or boy. Will do all the cultivation in your garden in the easiest, quickest and best way. Indestructible steel frame. Costs little and lasts a lifetime.

New 72-page Catalog (168 illustrations) free; describes over 50 different hand-and-horse-tools.

Write postal for it.

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Established at Leicester, England, in 1800

Department 2

Waukegan Illinois

Tasteful Mural Effects

Add beauty, charm and distinctiveness to your home. Give to it an air of cultured refinement by having your walls finished in the latest offerings of

Fab-Rik-O-Na Woven Wall Coverings

An almost unlimited variety of beautiful tones, shades and designs afford unique color scheme. Unequalled in rich simplicity and durability. When in New York, visit our exhibit at the Craftsman Home Builders Permanent Exposition, 6 East 39th Street.

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218 Arch Street Bloomfield, N. J.

Send for Booklet

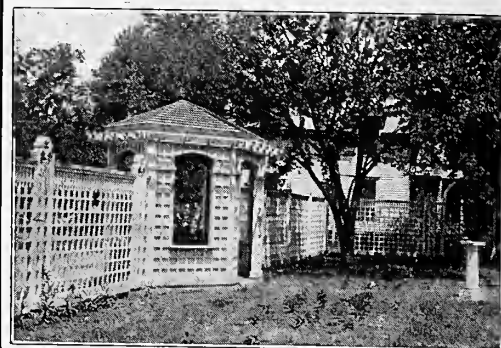
"Art and Utility in Decoration"
And Samples

high, do not try to bring it down by a border; carry the picture moulding, if there be one, all the way up to the cornice or angle between the ceiling and walls.

Floor coverings in any hall, of whatever type, should be quiet and neutral in tone. The furnishing of the hall is an exceedingly important matter. Let simplicity be the guiding principle in the choice and disposition of furniture and the adornment of the walls. In the long, narrow hall, the less furniture the better. It will be quite enough if there is a table (for a card salver) and candlesticks—the Victorian hat rack of whatever species should be absolutely taboo—and a chair against the wall at either end of the table. Above the table may be hung a mirror, a suitable picture or a bit of brocade or tapestry, flanked by sconces, which will give the necessary decorative distinction and will be quite enough to furnish the hall for all practical purposes. Put the card salver and a couple of candlesticks or acceptable Oriental vases, mounted on teakwood stands, or some simple but elegant similar bit of bric-a-brac on the table. If a table is not placed against the wall, a chest may be used instead. In the well-lighted long gallery traversing the face or rear of the house, a sort of long hallway adopted from English models and now much in favor, one may appropriately range a great deal of furniture along both sides. In the hall of ordinary width, of course, there is a great deal of possibility to introduce other appropriate pieces of furniture, such as chests, chairs, lowboys or highboys, sofas, mirrors—in fact, any piece of furniture that stands against the wall and may add to the decorative attractiveness of the hallway. It is important, however, to see that not too many objects are placed in the hall, so that it will be crowded or lacking in the aspect of roominess. Hats, coats and umbrellas should always be kept out of sight and a place should be provided for them in a closet conveniently accessible.

Let the wall ornaments be exceedingly few but well chosen. Do not make the hallway a picture gallery or hang anything there that may detract from the air of elegant simplicity. It will be well to study effective groupings of furniture for a broad hall, such as a table with a pair of candlesticks, a table or lowboy with a pair of candlesticks and a china bowl upon it, and above it a mirror or girandole or hanging sconces. Such furniture grouping needs careful thought to make it thoroughly effective.

In living-room hallways there are almost always suitable opportunities for building in locker seats or settles and window seats. Oftentimes this arrangement can be effected in conjunction with the construction of bookcases. In halls of this description a great deal of paneling can be done in connection with the built-in furniture and the balusters of the stairway with excellent results.



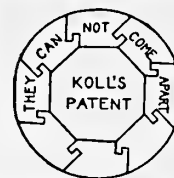
We have issued a very interesting catalogue showing a series of new designs in "Pergolas," Lattice Fences, Garden-houses and Arbors. Can be had free on request.

Catalogue "P28" for Pergolas and Garden Accessories
"P40" for Exterior and Interior Wood Columns

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for your children is perhaps the most important choice you have to make. You need the best guide in existence and that undoubtedly you will find every month in the

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for it is in Harper's Magazine that you find the announcements of more private and preparatory schools and colleges than in any other publication—the widest, the best, and the most dependable selection.

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MADE in four kinds, to fit every possible use where a portable support or trellis is needed for flowers, vegetables or vines.

One kind solves forever the staking-up problem of tomatoes, roses, golden glow and the like. For beans and vines, there is another kind.

For sweet peas, or plants and vines of a heavier nature, we have both a portable wire and a bar trellis.

All the angle-iron uprights and the wire are heavily galvanized and will not rust.

Can be easily and quickly put up or taken down.

Loops on the tomato trellis shown at left, are adjustable in both size and height.

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¶This was written by Grace Tabor and published two years ago in the June issue.

¶This pamphlet, well illustrated, gives complete data on the planting and care of roses and a list of the various varieties. In connection with this pamphlet we will have sent to you the

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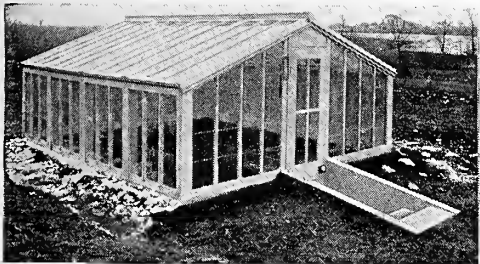
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CHERRY
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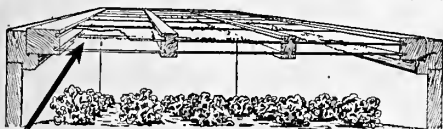
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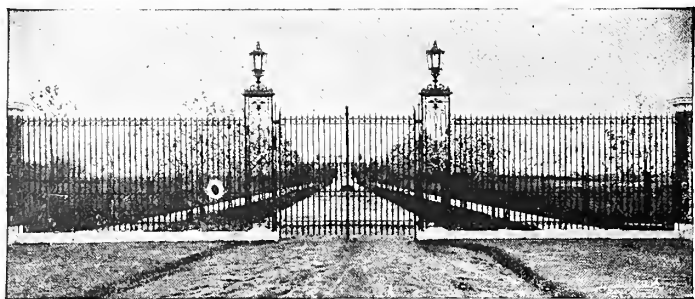
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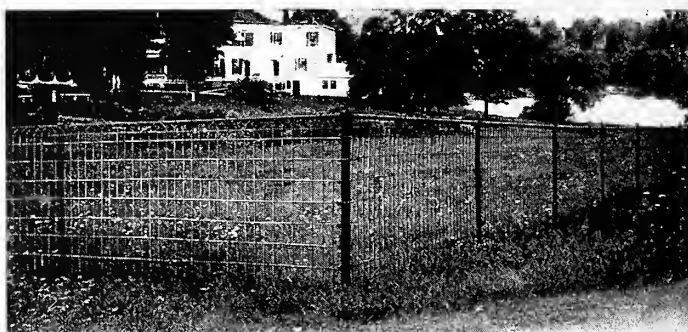
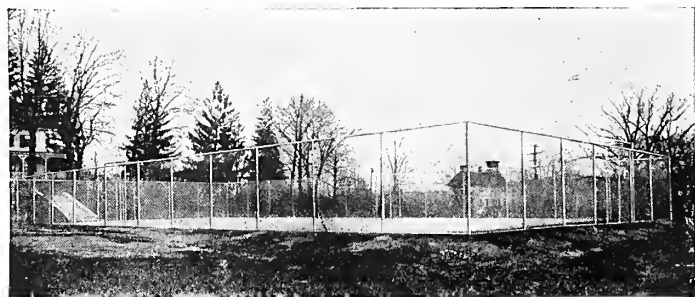
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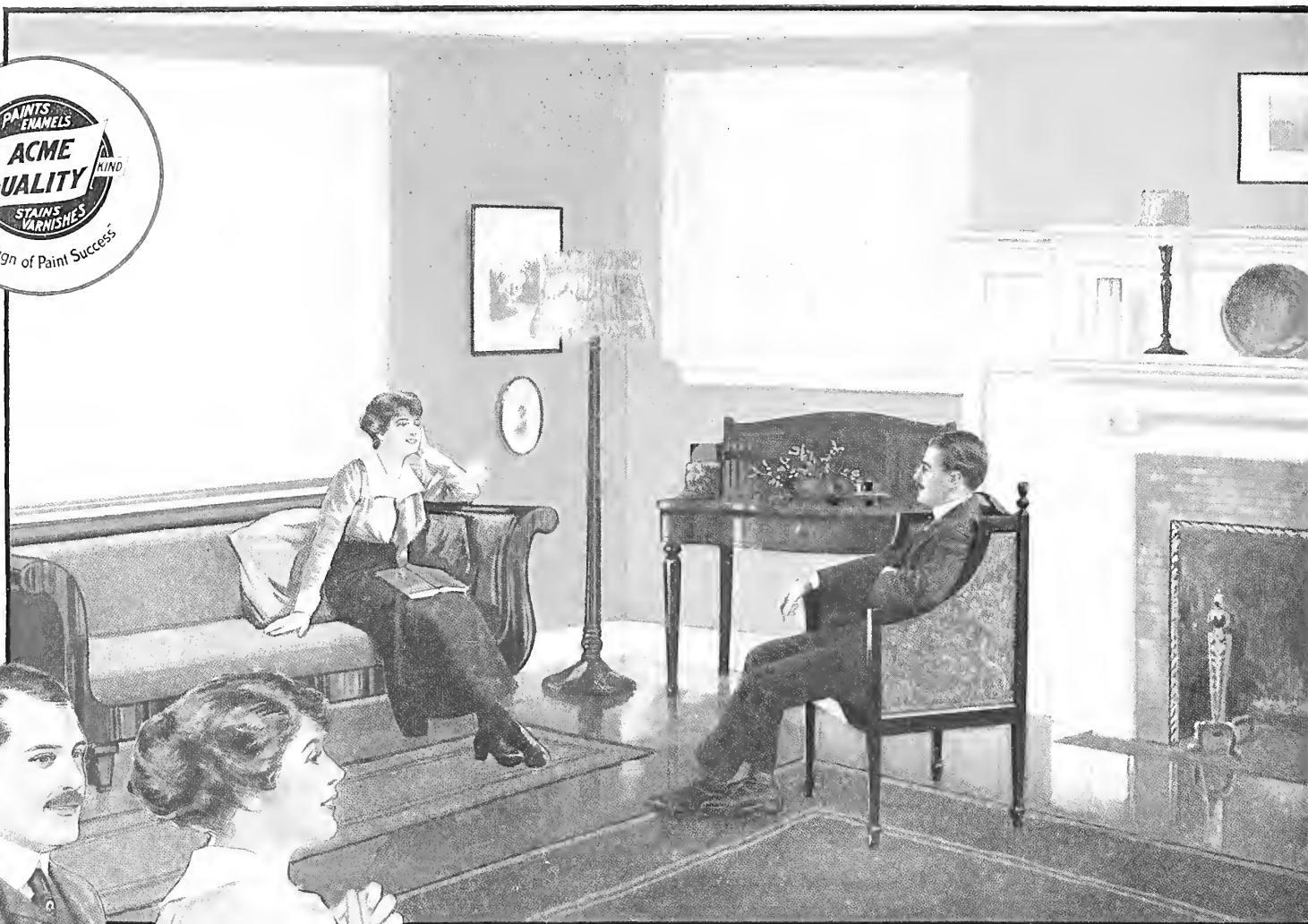
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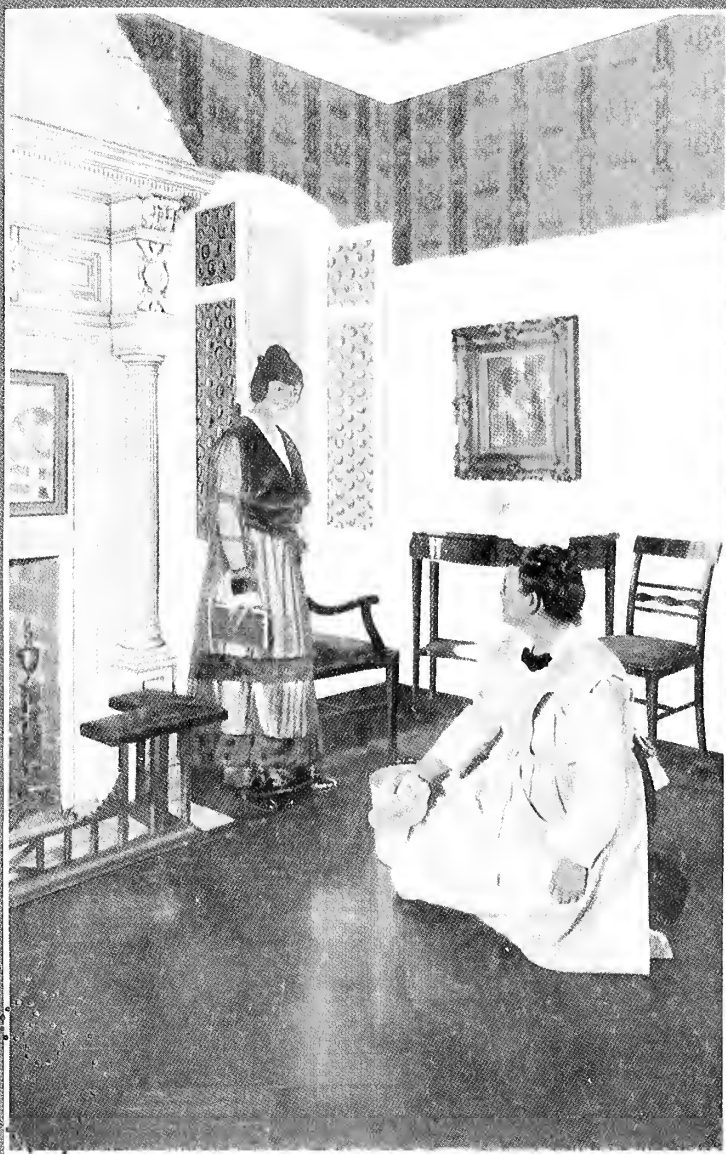
A House & Garden

A detailed black and white illustration of flowering branches, likely cherry or almond, with blossoms in various stages of opening. The branches are dark and gnarled, with small, light-colored flowers and buds. The illustration is positioned above the central text box and extends across the top of the page.

MAY 1915

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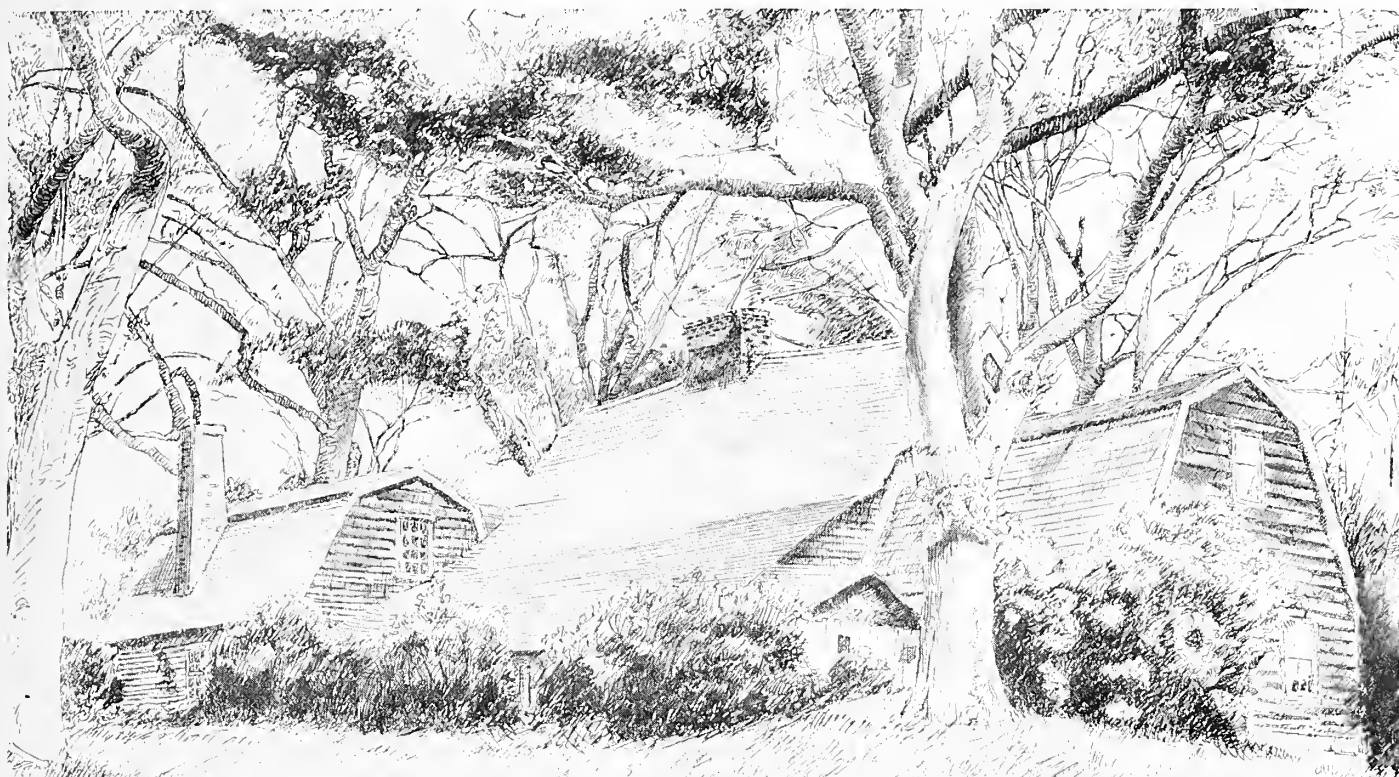
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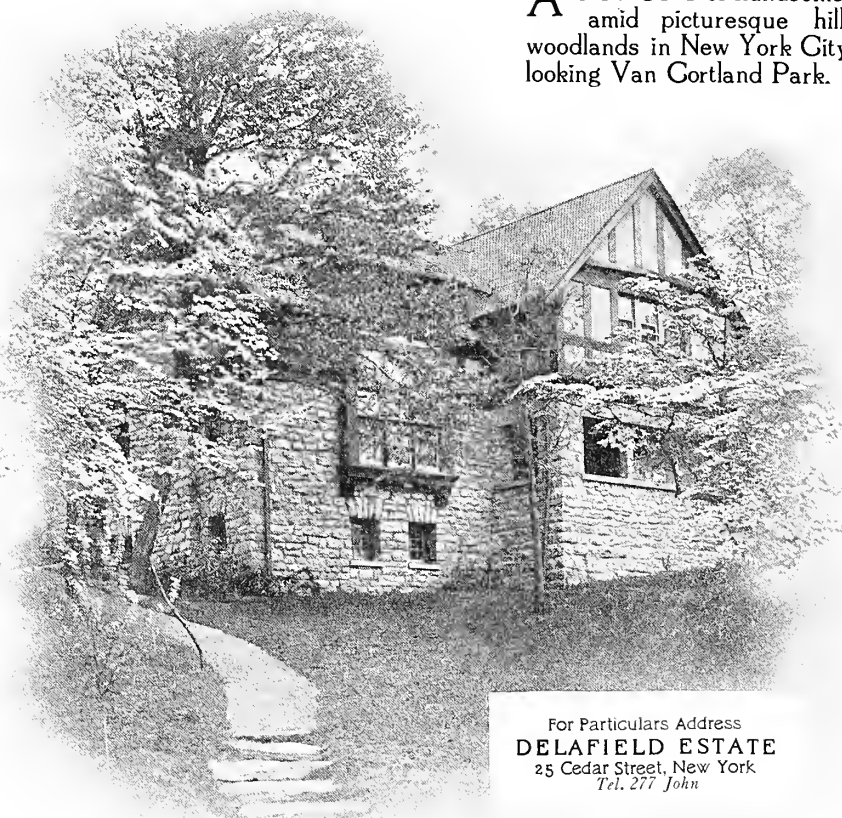


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Rustic Ridge, eight minutes from auditorium, modern bungalow in perfect condition; 9 rooms and bath, including screened outdoor sleeping and dining rooms. Lot 200 by 125. Beautiful shade trees. Completely furnished. piano and linen. Send for photos. MISS N. M. SMITH, 498 West End Ave., N. Y.



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The Water Supply for Suburban Homes

THE suburban dweller, or often the family living in the small cities and towns, is confronted with the problem of a water supply. The majority of cases are difficult to solve, because of the supply being hard water. Hard water of itself for many purposes is all that can be desired. But there are limitations to its use, and among the important uses to which it cannot be put are those of bathing, washing and cleansing. As these are important factors of daily living, and as they center about the sanitary and hygienic possibilities of the home, it becomes a topic of magnitude and one that should be solved wherever possible.

Water is hard for several reasons, primarily because of the presence of soluble and insoluble solids of lime, magnesia, iron and some forms of aluminum. These solids are divided into two distinct classes. The first is that which is soluble in water itself, and the second, that which is only soluble when carbon dioxide gas is present in the water. To make this clear, we find that the sulphates, chlorides of lime, magnesia, iron and aluminum are solids that are detrimental to the water, inasmuch as they constitute its hardness. Then, all but the latter minerals are held in solution as bicarbonates. These are present also where the carbon dioxide gas exists. Now, the condition of the water that we know as hardness is made possible from the fact that the water in passing from its source penetrates through these various formations, and by its very action takes up some portions of these minerals.

We all understand that with but few exceptions cistern (soft water) is not fit for drinking purposes. Even then there is a feeling that it is not pure, and there are many times more than an idle notion present to substantiate it. If we can make the cistern water pure by a simple process, and if we can also make the hard water soft, and also insure its purity, there is little left to be desired. Even if we have a supply of cistern water on hand we desire that it be clean and free from the impurities that could become a menace to our health. It is a fact that the body absorbs at least some portion of the impurities in the water where such are present to a marked degree, a danger not always apparent.

Even where the cisterns are cleaned out frequently there is danger from the use of this water. But many times this is not done and the danger is thereby increased. Stagnant water is full of germ life that is a health menace. There is a simple process now that insures pure and soft water. This cannot be done by the addition of powders or other means that have been in vogue for years. There must be a more powerful means for the removal of these elements.

To do this there have been devised plants that can be purchased and installed

REAL ESTATE—Continued



From these windows, facing the sunset, the view is enchanting

An Exceptional Country Home with a Wonderful Twenty-Mile View of River and Highland

SITUATED at Philipse Manor, Tarrytown, on the Hudson River, right on the water front and within perfect commuting distance of New York by electric trains, this house has every advantage of country life and city conveniences. A more beautiful location can hardly be conceived. Facing west it commands a splendid twenty-mile panorama of river and mountain. The property consists of 2/3 of an acre, and is situated in a restricted community where land is rapidly rising in value. Country clubs nearby, with golf, tennis and boating, fine wooded country, and an excellent bathing-beach offer every facility for outdoor life.

This modern house of the Italian villa type, designed by the associate architects of the new Grand Central Station, New York, has every known convenience. These include two sleeping-porches, a dining-porch, a linen-room, a billiard-room and an owner's private suite consisting of two rooms, sleeping-porch and private bath. The interior arrangement is unusually charming. Altogether there are 13 rooms, 4 bathrooms, hot-water heating, open fireplaces, electric light and gas. The house is flooded with light and air; the windows are all casements, and glass doors lead to the porches which are red-tiled. The main entrance to the house is under a vine-covered pergola.

This property is offered for sale at a price considerably below the actual cost. A lease might be considered. The house can be seen at any time.

For further information, address the owner, E. H. E., care of House & Garden, New York City.

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How would you like, Mr. A—, to take a house near town for the summer? The very place you want can be found in "Where to Live"—see pages 6 to 11 of Vanity Fair's May number.

If you can't wait to secure this number, drop a line to "Where to Live" and we will put you on the track at once.

On the other hand, how would you like, Mr. B—, to get someone to rent or buy your new house in the suburbs? Put a notice in the next Vanity Fair—your broker knows all about it.

Whether you are looking for a house to live in, or have a house for someone else to live in, this department of Vanity Fair is equally at your service. Just send a line to

"WHERE TO LIVE"

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One contains 14 rooms and is suitable for a summer school. Both have large open fire-places, ample piazza space for outdoor sleeping, fine views, excellent beaches, etc. Fuel, ice, and boats supplied. For further information and photographs, write M. P. TUBBY, Box 74 Westfield, N. J.

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Near Sound

Good roads. Shore Line Railroad and trolley connections. Fourteen rooms, barn and carriage house; electricity, telephone, lawns, fruit trees. Photographs sent. \$500. Dr. C. V. LUTHER, 481 Sixth St., Brooklyn, N. Y.



Whitefield, N. H.—For Sale or Rent
Attractively furnished house, 9 rooms, bathrooms, fireplace, hardwood floors, piazzas and sleeping porch, superb view, every convenience, 2 rooms and bath for help, garage, 6 min. walk to Mt. View House and golf links. MRS. G. S. WHEELER.

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Summer Residence at Rockville Centre, L. I.



1½ acres lawn, garden, stable, garage. Near water and Long Beach. House 10 rooms, electricity, private water supply, excellent shrubbery. Will carry part on

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STEINWAY

THE ultimate value of a trade-mark, and of the advertising of a trade-mark, depend absolutely upon the merit of the goods which bear the trade-mark. Therefore you may depend upon it that when a manufacturer brands his goods, thereby identifying them, and then advertises their identity, he is going to put merit into them. He knows that if he doesn't, his first sales will be his last. The consumer may buy the first time on advertising, but he buys the next time on satisfaction or not at all.

The trade-mark makes it as easy to avoid the unsatis-

factory as to re-purchase the satisfactory. Therefore the presumption of excellence is always in favor of the trade-marked, nationally advertised goods as against the unbranded article of uncertain origin.

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House & Garden

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at a reasonable figure. There are several of these systems, the varying price being due to the amount of water desired every twenty-four hours. There is a double tank that receives the water in its natural state, and after passing through the first, or receiving tank, is permitted to flow into the storage tank, ready for use.

The supply of soft water is drawn from the bottom of the tank, where there has been provided a quartz filter, thus insuring an added purification after the water has been softened. What is known as the precipitating tank is supplied with a funnel bottom containing a flush-out valve. The treated water passes through the center reaction tube of this tank and the residue is permitted to pass into a pan or any other outlet. One can see at a glance the mineral substances that have made the water both hard and impure. There is an automatic feed-box and a regulating mechanism that controls the supply of chemicals to be consumed in making the water ready for use.

WARFIELD WEBB.

Poultry Work for May

THE first of this month is not too late to buy day-old chicks, especially those of the smaller breeds, like the Leghorns and the Anconas. Even Plymouth Rocks and Rhode Island Reds may be brought into laying in November if they are grown rapidly. This is a good month to hatch bantams, which are much in favor among fanciers. It is hard to raise bantams in cold weather, but easy when the weather becomes settled and warm.

From now on turkey hens may be allowed to sit on their own eggs. Young turkeys must have shade on warm days and should be kept confined in the morning so long as the grass is wet.

Duck eggs run very fertile this month, and it is not too late to hatch Indian Runners, which will lay early the coming year. For a month or two previous to Easter duck eggs sell for from ten to fifteen cents more than hen eggs. When duck eggs are being set it should be remembered that twenty-eight days are required to incubate them.

Before the incubator is put away after the last hatch, it should be thoroughly cleaned and disinfected. It is a good plan to let it stand for a few hours where the sun can flood the egg chamber.

Fireless brooders can be used to advantage at this season. When outdoor brooders are used for very young chickens they should be set under trees or protected from the sun's rays by some artificial means. Otherwise it will be difficult to maintain an even temperature in the hover. If an electric current is available, the new electric brooders will be found exceedingly convenient, reducing the work of management to a minimum. Usually it is possible to get special rates on a heating basis.

It is useless to keep any male birds

A New Volume in the HOUSE & GARDEN Making Book Series

MAKING WALLS AND CEILINGS

By H. D. EBERLEIN

Author of "House Furnishing and Decoration," etc.

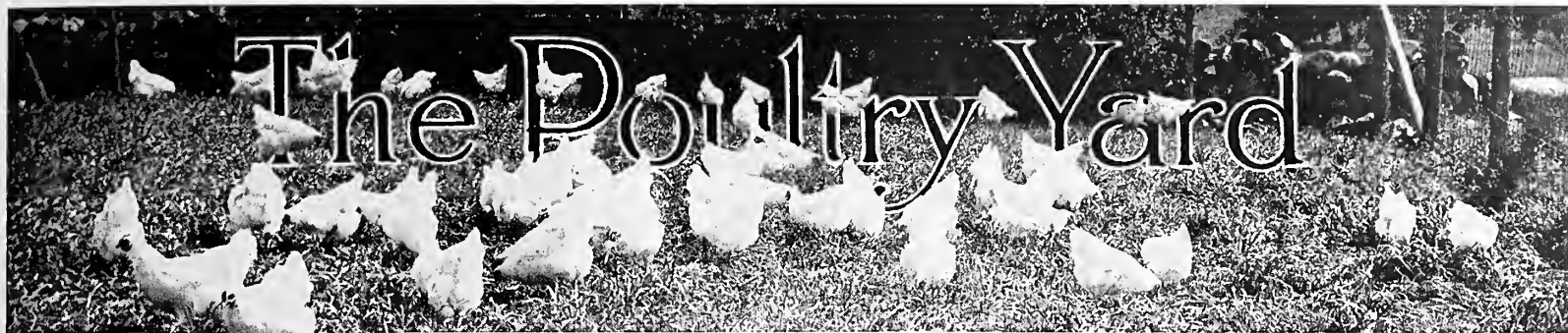
Mr. Eberlein has contributed a new volume to the "Making Series" which discusses all types of ceilings employed in the best American examples of home architecture. He describes the various kinds of wall treatment, including all the various modifications of paneled, plastered, rough plaster walls, pseudo paneling and lattice work.

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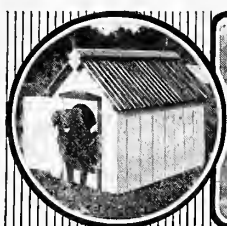


around after the breeding season is over, unless, to be sure, they are good enough to carry over to the next season. It is advisable, also, to sell off whatever old hens may be left as fast as they stop laying, and sometimes it is just as well to get rid of the younger birds from now on when they become persistently broody.

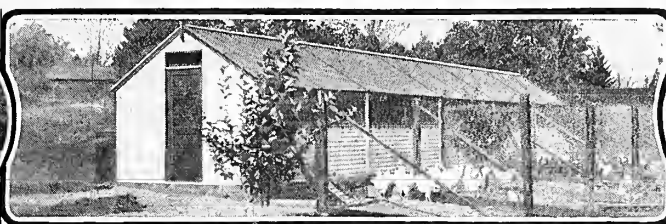
Hawks, rats, skunks and marauding cats do a great amount of damage at this season. When the chickens are on range the hawks are likely to get many of them, and light-colored chickens are more often the victims than those which have darker feathers. It is a help to have piles of brush to which the chickens can flee when danger threatens, and if a few guinea hens are kept on the place they will be certain to give warning when hawks appear. When carefully shut up at night the chickens are safe from skunks and a brooder house may be made rat-proof by the use of cement, but in any event the rodents can be disposed of by the use of poison, if need be. Sometimes a dog will keep them away. Thieving cats are a great nuisance in many sections and hard to deal with. Usually the right kind of dog will secure immunity, but occasionally it is necessary to trap the cats.

If there is plenty of grass the chicks will need no other green ration early in the season, but after a time the grass will become too tough for them. Lettuce and other garden produce may be fed, but probably there is nothing better to grow, especially for the poultry, than dwarf Essex rape. It is ready in a few weeks from planting, and if only the leaves are broken off the plants will continually renew themselves. A spring planting and another in July will give green food all summer. Rape seed may be sown broadcast, but it is better to grow the plants in rows and to keep them cultivated. Tall Scotch kale planted now will give an abundance of greens in late fall, long after the frost has cut down everything else in the garden.

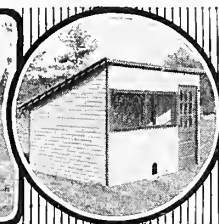
It is poor policy to keep chicks of different ages together or to let chickens and ducks run in the same yard. The big chickens will crowd their weaker brothers and sister and the ducks will foul the drinking water. Of course, it does not matter much if flocks are mixed when there is plenty of range, provided that the smaller and weaker birds are allowed to



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obtain their share of the grain. This can be arranged for by making a coop with slatted sides, the slats being placed too close together to admit the larger members of the flock. If fed in this shelter the less robust youngsters will be able to eat in peace.

There is a distinct advantage in housing the chickens in small lots after they leave the brooders. They are sure to pile up in the corners, and if there are many birds, those at the bottom of the pile are pretty certain to suffer.

It is necessary to repeat previous warnings about the coming of the ubiquitous chicken louse. These pests multiply with astonishing rapidity. In the course of a few weeks one pair will have increased to thousands, unless something is done to keep them in check. Whitewash and kerosene and lice powder serve useful purposes, but nothing is so economical of time and labor or so effective as a good prepared lice paint used freely on perches and coops and in the nest boxes. Applied once a month it practically means freedom from the invasions of the red mites, which often appear at this season in countless numbers and which, if unchecked, spell sure disaster.

As eggs are plentiful and cheap at this season, it behooves the thrifty housewife to preserve a considerable number in anticipation of the lean days sure to come in early winter. Undoubtedly the best preservative is sodium silicate, commonly called water glass, and obtainable at any drug store. It should be used at the rate of one part to nine of water. Probably the best receptacle is a stone or earthenware crock, which should be set in a cool cellar. The eggs should not be over three or four days old, and it is desirable, although by no means necessary, to have them sterile. When they are in the crock those at the top should be about two inches under the surface. A gallon of water glass, costing 50 cents, will be sufficient for 60 or 70 dozen eggs, and will keep them remarkably fresh and good for six months or longer.

For the Intending Dog Buyer

IN buying a dog, the first point to be decided is, of course, the breed. Look about and pick up all information possible concerning the different standard types; learn the peculiarities of each and how they will or will not fit in with your particular tastes and requirements. When you have found a kind that you think will suit, get in touch with one or more reliable breeders (most of the best breeders advertise quite extensively, and so can be readily located), and see what they have to offer.

If possible, arrange to see the dog before definitely closing for him. Look him over for such possible defects as deafness, poor eyesight, canker of the ear, etc. He should (and will, if you go to a breeder

who has a reputation to maintain) be sound and in good health. Notice his disposition, too, for a dog should "fit" his owner as comfortably as if he were a pair of shoes or a hat.

If you cannot see the dog before buying, and consequently have to make the purchase by correspondence, write the breeder fully as to what you want. State the desired age, sex, approximate price and purpose. In regard to the last item, it will be well to remember that dogs may be divided roughly into three classes: working dogs, such as terriers, to be used for hunting, etc., bench-show dogs, and general companions.

The matter of age is deserving of considerable thought. Fully matured dogs are apt to be set in their ways and do not become as attached to a new home and master as do younger ones. Very young puppies, on the other hand, are subject to various minor disorders which often cause considerable worry and trouble. Where the purchaser is more or less experienced in raising young puppies, and has time and facilities for it, I might advise his getting a seven- or eight-weeks' old pup, because such a one will be less expensive and his character may be more readily molded along desired lines. For the average person, however, a pup of seven or eight months old will generally prove the most satisfactory investment.

When it comes to price, there is little to be said except that "good, well-bred dogs cost real money and are worth it. "Blood tells," whether it flows in the veins of a man, horse or dog, and when a supposed-to-be good dog is offered you at a very low price, look out. It is better to pay twenty-five or thirty dollars for a sound, well-bred pup of eight months and know what you are getting than to pick up a misrepresented "bargain" for one-fifth as much.

In considering the question of the purpose to which your unbought dog will be put, we may pass over the "work" classes as being too obvious to need further explanation, and turn to the bench show and companion types. Oftentimes these two overlap to a considerable extent, for many a ribbon winner of some standard breed is as fine an all-round dog as could be desired. A pup that comes of show stock is usually more expensive than his shorter-pedigreed cousin, but providing the breeding points have not been carried so far as to impair his vitality or intellect, he is worth the extra money, even to the person who never expects to enter him for competition. There is a certain satisfaction in owning a dog whose appearance will pass muster in any company.

Avoid the stranger who offers you a handsome dog at a low figure. Five times out of ten the dog has been stolen, and the other five times he has some serious defect. The place to buy dogs is from the people who breed them for sale, for such persons must live up to their established reputations for square, honest dealings, and they are available in case your dog should prove unsatisfactory in any way. Buy from the dealer, by all means.



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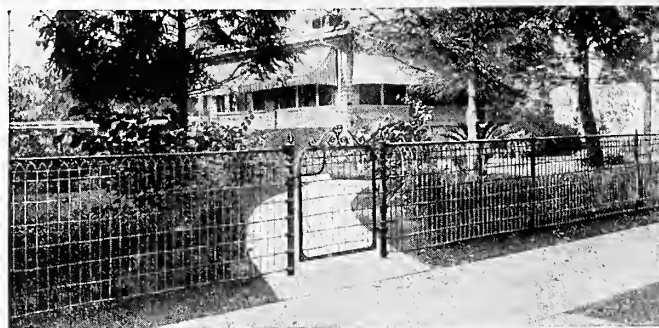
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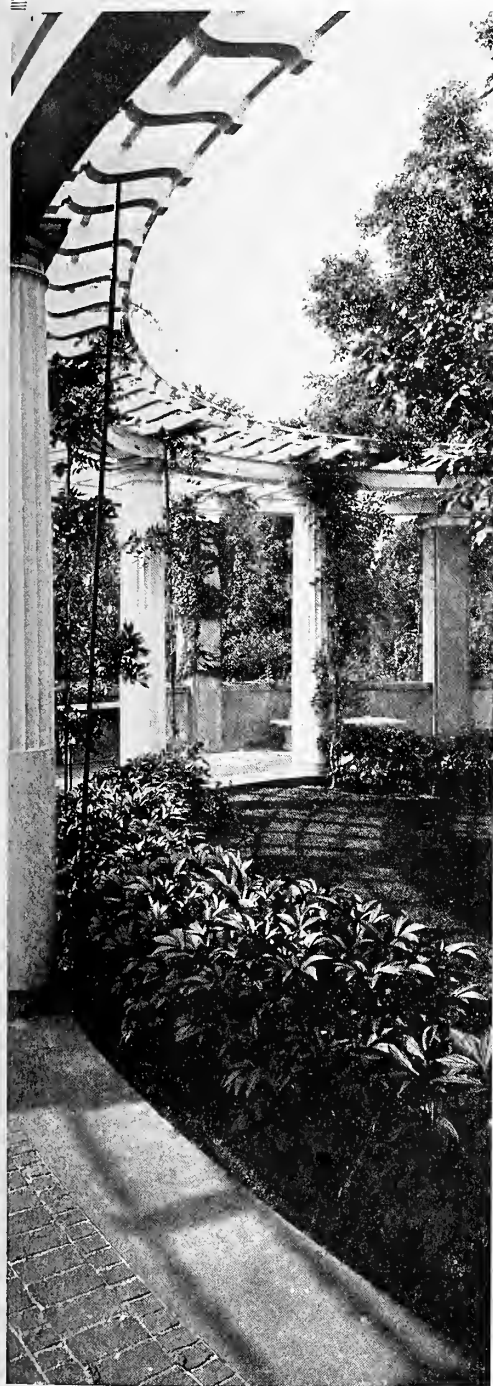


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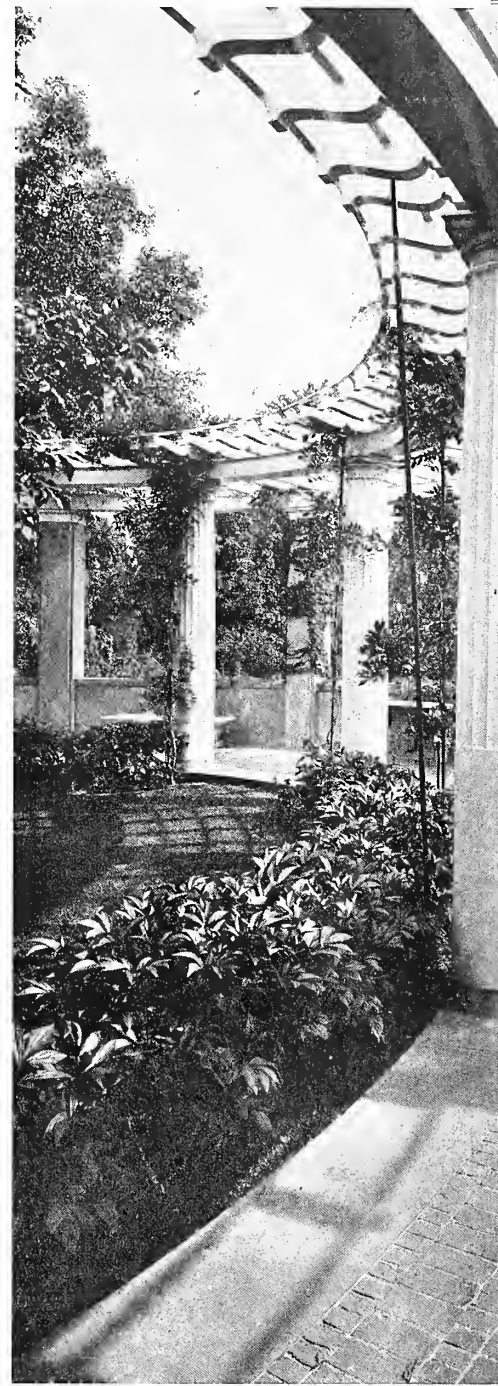
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RICHARDSON WRIGHT, Managing Editor

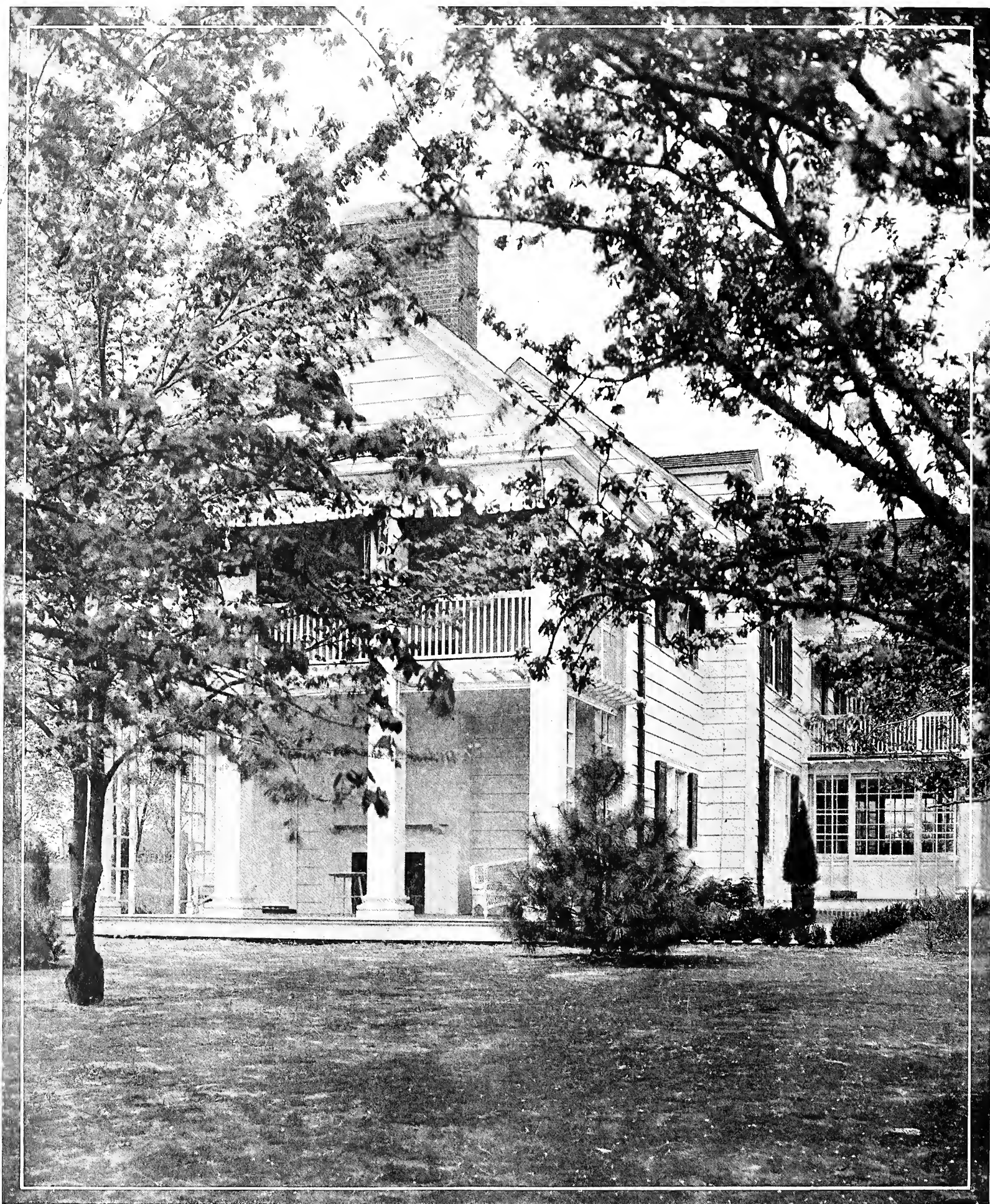
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If a house is planned along Southern Colonial lines, an effective treatment for the pillared end is to adapt it to the uses shown here: a sleeping porch above and an outdoor living-room below. The outside fireplace is always a pleasing and useful adjunct to these porch living-rooms. Aymar Embury II, architect



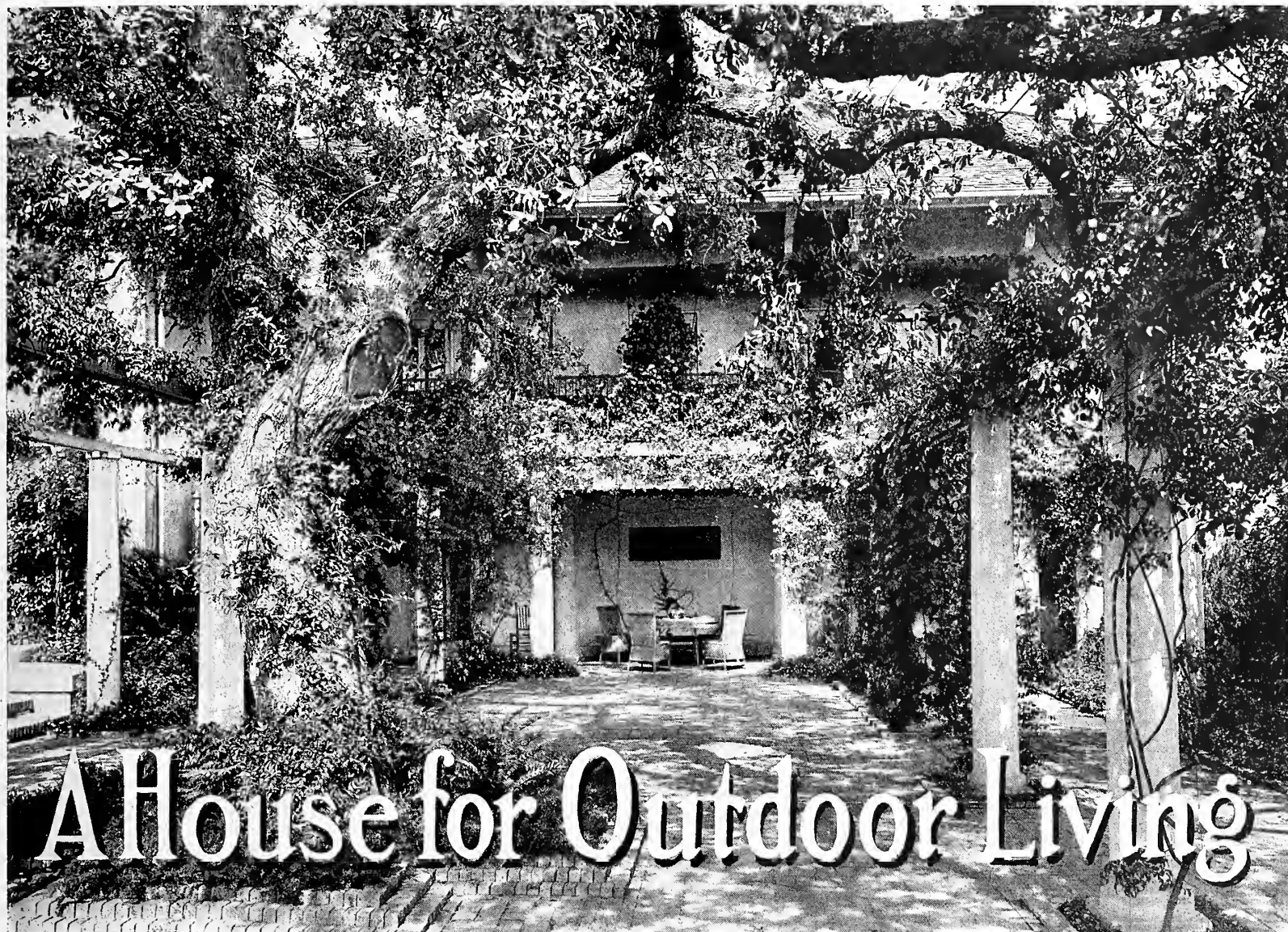
House & Garden

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VOL. XXVII—No. 5

MAY, 1915



From the rear of the house are two parallel pergolas covering brick walks and framing an exquisite garden vista. The columns are of concrete, with a double wood railing at the top, bearing tracteries of clinging vines, ivy, wild fig and barren grape

THE DOUBLE PERGOLA IN THE GARDEN OF MRS. J. N. BURNS AT PASADENA, CALIFORNIA—ADAPTING ITALIAN SETTINGS TO AN AMERICAN ATMOSPHERE—SUGGESTIONS FOR THE TREATMENT OF CITY YARDS

CHARLES ALMA BYERS

Photographs by Lenwood Abbott

IT seems hardly fair that all of us cannot walk occasionally in Paradise—or a beautiful garden, which perhaps is the nearest thing thereto that earth affords. I first was impressed seriously with this thought several years ago—one summer evening. It was while I was strolling in my own garden. My garden is not large nor elegant, but I often find it a great solace, especially after laboring all day in the noisy, bustling city. In fact, it is extremely simple, quite commonplace, but nevertheless it gives me great joy to stroll along its graveled paths and admire the

fragrant flowers in it. My own flowers—my own garden!

Not far away rumbles the elevated, bearing to and fro its loads of human freight, and not much farther lie the tenements, with their somber fronts and loathsome alleys. I remember once, when my morbid curiosity caused me to wander into the district, I saw a lone geranium struggling for existence in an old rusty can sitting on a fire-escape. That was probably somebody's garden.

But I have somewhat digressed. I had started to say that I was strolling in my garden one evening, admiring the humble



The house stands back from the street behind a hedge of roses and across a close-cropped lawn. Its walls are of white stucco over metal lath and the roofing is of shingles stained soft green

result of my efforts and longing for something grander, when, chancing to glance toward the street, I beheld two small dirty faces pressed closely against the openings in the iron fence. Though dirty and plainly belonging to tenement urchins, the faces were all aglow with wonderment and admiration. Long and eagerly their bright eyes scanned the interior, and finally the smaller of my garden's admirers, the boy, whispered to his companion, as if audible words might erase the picture:

umns and semi-tropical flowers and vines. But still there is much that belongs to neither Italy nor Spain—an influence that is still more modern. Therefore, let us describe the whole as just Californian.

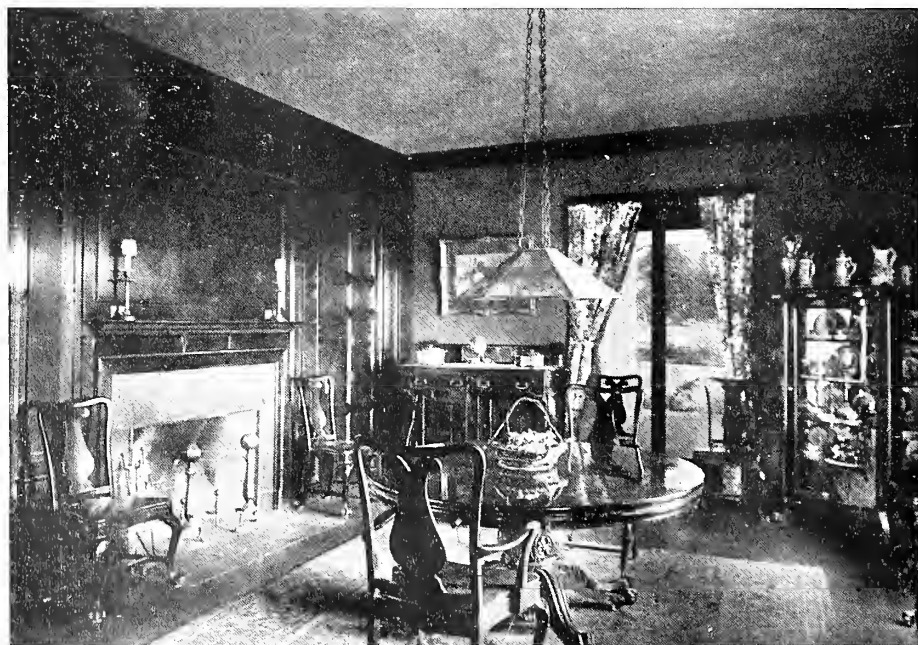
America, and especially California, is particularly favored in climate and in many other ways for the creation of beautiful gardens, and it is indeed regrettable that the opportunities are not more often made use of. The benefits to mind and body

"Betty, thath muth be Par'dise."

"'Spect 'tis, Billy. Wish we could get in."

I have since seen many gardens that reminded me of the remarks of those two tenement children—that impressed me in very much the same way as mine did them. Although used to my own little garden, these more elaborate creations have seemed like a picture of Paradise. Here is one of them—the three-acre grounds of Mrs. J. N. Burns at Pasadena, California.

But if one has studied gardens from a constructive point of view, he instead will probably be reminded by the accompanying pictures of some grand old garden of Italy—some romantic *giardino*. True, it seems more modern and better kept, for the elegant gardens of Italy are all old—many, even, all but forsaken. There, too, will be a suggestion of the gardens of Spain's Andalusia, with their classic col-



The fireplace side of the dining-room is paneled in dark wood, the remaining walls being covered with a neutral-toned paper that makes an excellent background for the mahogany furniture

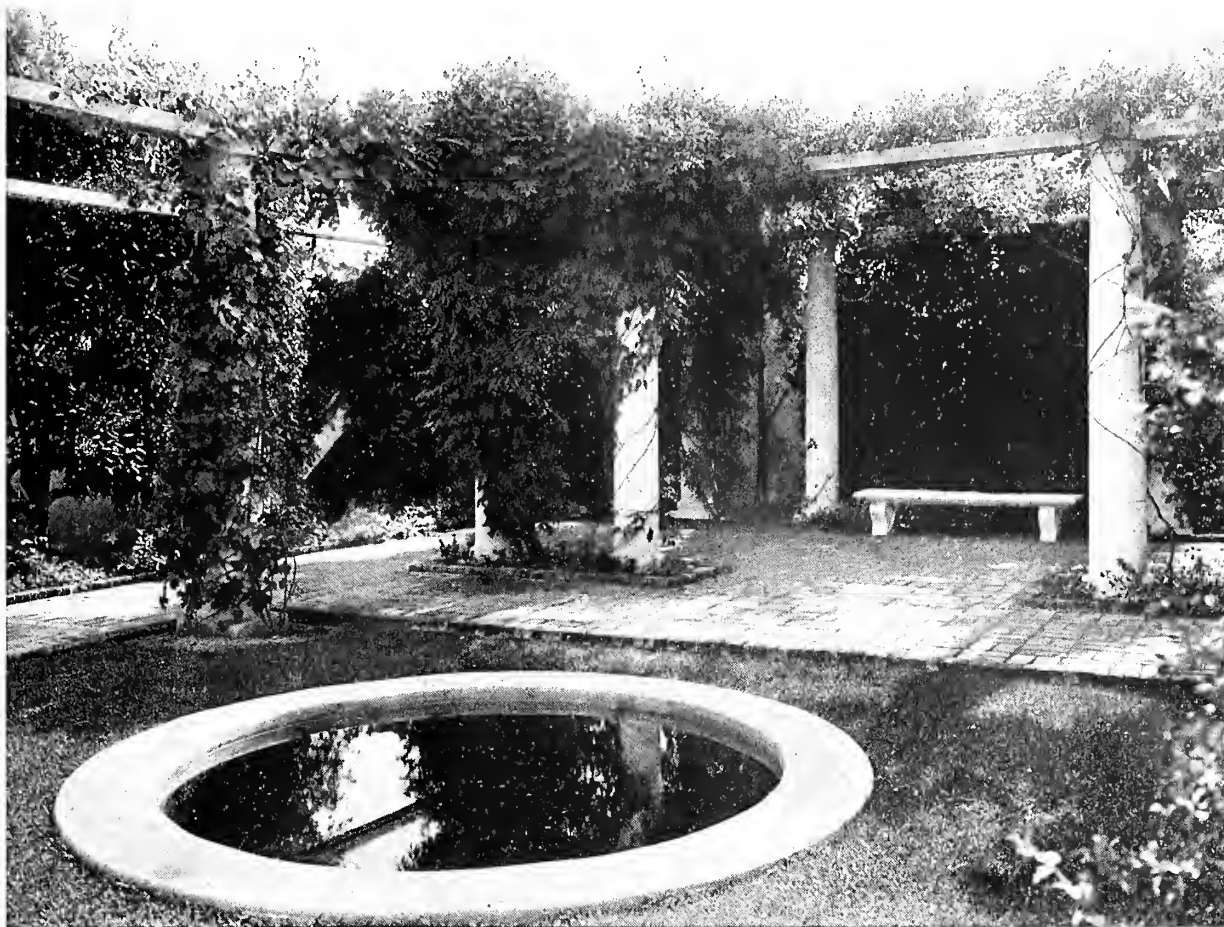


The Italian motif has been carried out in the interior architectural details, as shown here in the high carved mantel and its decorations

derived from living as much as possible in the pure, fresh air of the great outdoors are quite generally recognized, but still we seem extremely slow to avail ourselves of those benefits. In the Beginning of Things, a certain garden — Eden — was considered quite sufficient for the abode of man, but Sin drove him forth. Since then he has dwelt in caves, hovels, tenements, cottages, palaces, but little in gardens—far too little. Truly, he is long in getting back—even back to a commendable medium. The indoors, while quite necessary in its way, has cast a spell that seems difficult to overcome. Sometimes, of course—sad thought!—it is all that is possible, but often it has produced just a habit. Too often the garden is not appreciated until it is impossible, or is longed-for only by those to whom it has never been possible.

When one sees a garden, however, like the one here shown he must surely be awakened to an appreciation of garden beauty and attractiveness. A realization that the outdoors is the more healthful seems not sufficient in itself to draw us forth into the open as much as we should be. There must be something—and certainly nothing is more potent than a beautiful garden—to lure, invite, or subtly coax us hence.

Covering a plot of quite ample extent, this California garden is endowed with many retreats that are indeed alluring. There

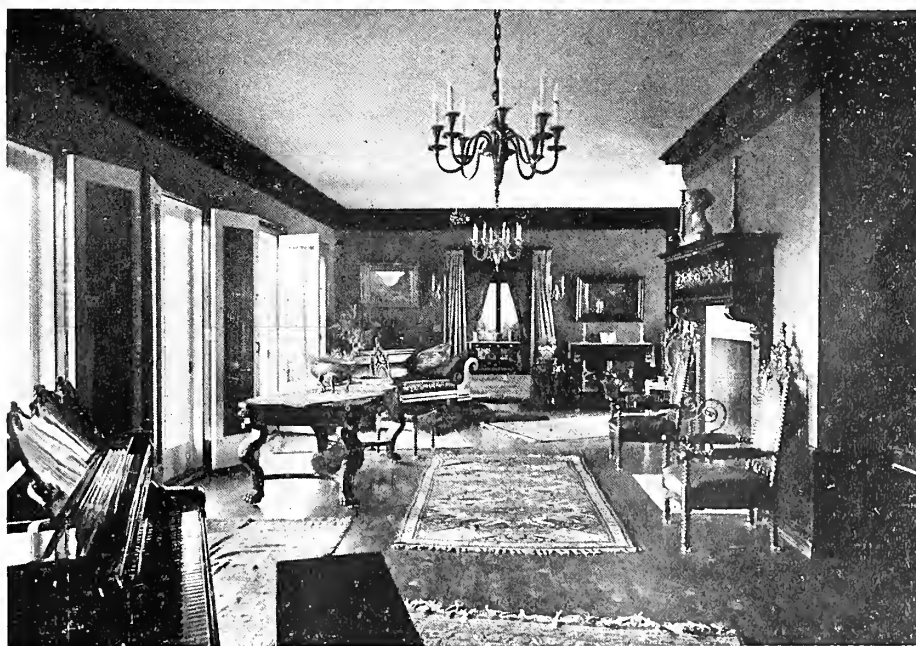


There are queer transitions in this garden: you pass from jungle to lawn plot, beyond the pergolas are masses of trees and shrubbery, sinuous gravel paths and now and then a bordered pool

are vine-draped pergolas, sheltered seats and cool piazzas in which to while one's leisure time. There are trees and shrubbery, flowers and vines, in graceful profusion, to bewitch the eye. Here and there are plots of close-cropped lawn, and now and then one comes suddenly upon a mirroring pool of water. Sunlight and shadow play everywhere, dappling the walks and piazza flooring, and adding the finishing touches to a picture that is truly one of Nature's and the gardener's masterpieces.



The vista from the balcony down the avenue of pergolas includes the old oak trees that have been preserved in this new arrangement



There is spaciousness in the living-room, its high ceilings and many French doors, bringing into the house some of the openness of out-of-doors and creating a charming atmosphere

The house embowered in this charming setting is large, stately, dignified. Its walls are of white stucco over metal lath, and its roofing is of shingles, stained a soft green. It has spacious verandas and balconies, often festooned with vines, and below many of its windows are charming flower boxes. Inside it contains large, comfortable rooms, beautifully decorated and elegantly furnished.² The interior possesses all the conveniences and all the charm and richness that can be desired, and to create a garden that might prove a successful rival to this comfort and splendor therefore became no trivial problem.

The house stands well back from the street, and even in front the grounds are a veritable garden. The sidewalk is bordered by a hedge of rosebushes, and beyond this blossom-covered hedge lies an extensive expanse of lawn, dotted with trees and shrubbery. Near the street are also two small garden pavilions, which, with their white pillars and shingled roof, correspond admirably with the architecture of the house.

It is in the rear, however, that one finds the real garden—the garden of enchanting retreats and floral profusion. From the rear of the house two parallel pergolas, covering brick walks, extend back for a distance of nearly two hundred feet, creating a most charming garden vista. Their classic concrete columns, with the double wood railing on top, all in pure white, present a striking contrast to the embowering foliage, and many of them bear graceful tracteries of clinging vines—ivy, wild fig, barren grape, and several other varieties. And to add just a touch of rusticity to this somewhat formal scheme, a gnarled and straggly

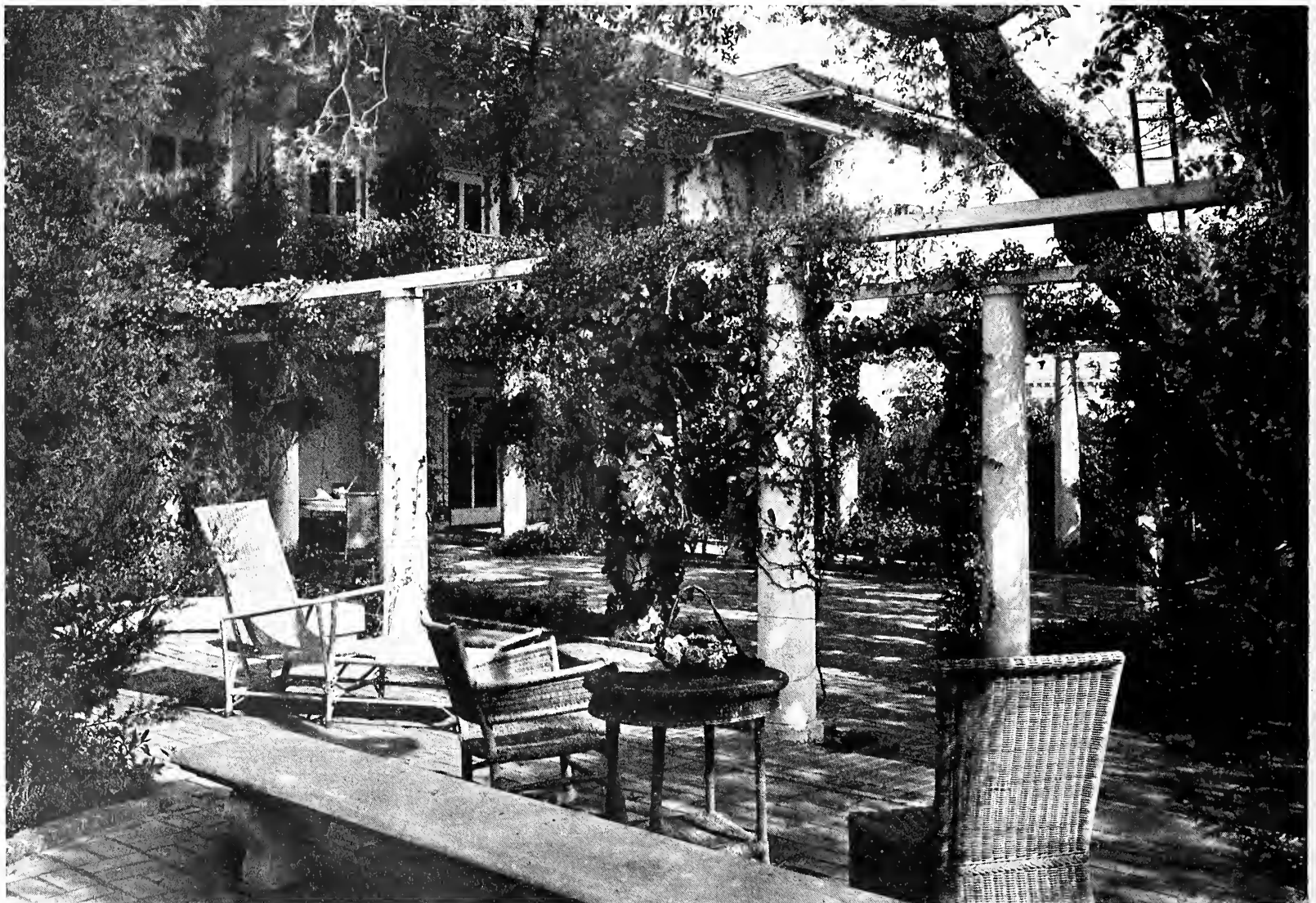
old oak stands between the pergolas, near the house, its irregular branches spreading a sun-flecked mantle of shade over a considerable portion of the surrounding piazza.

There is much of this piazza space—all with a flooring of blue brick, but for the most part with no covering save that provided by the foliage of trees and vines. It is terraced here and there with low concrete walls and broad brick steps, creating little more than mere imaginary divisions, and yet producing nooks that seem quite secluded and cozy. By temporarily furnishing them with a table and chairs, preferably of wicker or something similar, these places become excellent for serving afternoon tea; and under a balcony in the rear of the house, adjoining this piazza, is a small roofed retreat that may be used even while rain outside patters on the brick pavement and trickles from the foliage. All in all, this portion of the grounds is most ideal for either a garden party, or merely as a place for quiet outdoor lounging.

The old oak is surrounded by a small plot of ground planted to ferns and springareis, and around the base of the pergola pillars are grown vines and delicate flowers. The marble-like pillars afford a charming background for the variegated decorations, and the paths which they enclose, almost losing themselves in the farther end of the garden, are indeed enticing.

The pergolas are linked together at their garden terminus by a sort of resting place, also floored with brick, and containing a small concrete bench. This retreat is walled in on three sides by vines, and before the remaining side, which the seat faces,

(Continued on page 364)



The garden floor is terraced here and there with low concrete walls and broad brick steps, creating little more than mere imaginary divisions and yet producing nooks that seem quite secluded and cozy. By temporarily furnishing them with wicker, they are excellent places for tea or an afternoon's reading



The beds should be narrow enough to make every rose bush in the bed accessible from a path—four feet is a good width for a double row of plants, or twenty inches for a single row. Rectangular beds are probably the most convenient to work in

The Culture of Roses

THE PROPER PLACE FOR THE ROSE BED AND HOW TO PREPARE IT—FIGHTING PESTS—GRAFTING FOR AMATEURS—QUALITY VERSUS QUANTITY IN BLOSSOMS—BEST VARIETIES

H. W. DUNHAM



NOTHING is more beautiful than a rose, and no garden is complete without at least a few of them. This seemed to me especially true, when one glorious morning last June I discovered that a particular bud I had been carefully watching had burst into bloom over night. And I think most garden lovers feel the same way about roses.

There seems to be a feeling, however, among amateurs that only professionals can grow roses with any degree of success. And while, of course, experience counts a great deal in rose-growing, as in

all other gardening, by carefully following a few general rules anyone should meet with at least a fair degree of success.

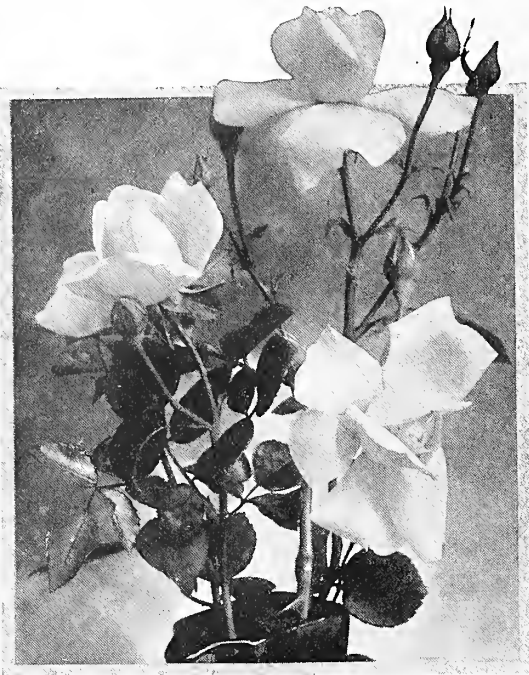
The first essential is situation. Choose an airy, yet sheltered, spot where the bushes will get plenty of sun—preferably on a southern slope, as it is imperative that the rose garden be protected from north winds. However, if this is not possible—and a great many of us will not be able to find ideal spots—either a house or a garden wall makes an excellent protection. Do not use trees as a shelter, for the root system of the tree near which the bush is would rob it of its food supply. Having found a suitable location, the other essentials—drainage and good soil—are more easily obtainable.

It is well to avoid choosing low ground for the roses, as this is not so well drained. Late spring frosts present an added danger, since they are felt more keenly in low situations.

There is only a word to say in regard to the size and shape the beds shall be. It is advisable to have them narrow enough to make every rosebush in the bed accessible from a path—four feet is a good width for a double row of plants, or twenty inches for a single row. Rectangular beds are probably the most convenient to work in.

Next comes the preparation of the bed itself. As stated above, good, rich soil is most desirable. After marking out the space the bed is to occupy, dig the soil out to a depth of about two feet. Keep the sod, top soil and sub-soil in separate piles as they are taken out. Loosen the floor of the bed with a pick, and if the ground needs draining, put a layer of stones or cinders on this. After thoroughly mixing the best of the sub-soil with a generous dressing of well-rotted manure, place it on the cinders or stones. The sod comes next, well broken up and mixed with the top soil, which has just enough manure to enrich it slightly. Finally, fill in the bed with the best of the top soil, unmanured, to bring it about three inches above the level of the ground. When the surface of the bed has settled properly it should be about an inch below that of the adjoining sod, as it will thus retain the moisture from rain better. This preparation of beds should take place about three weeks before planting time.

When making your bed, compose the soil to suit the kind of rose you are planning to grow. Hybrid Perpetuals require a heavy soil containing some clay. Teas and Hybrid Teas do better



Mary Lovett, one of the new varieties of white climbing roses, is a sturdy plant, with a profusion of bloom

plants and make all your work valueless.

In selecting stock beware of alluring offers of two dozen first-class roses for the usual price charged by reliable dealers for one. Good roses are worth paying for; poor ones are not worth the time spent in caring for them. The importance of first-class stock cannot be overestimated.

There is a great deal of discussion as to whether roses are best grown on their own roots or when grown on sturdier stock, such as Manetti for Hybrid Perpetuals and brier for Hybrid Teas. While there is much to be said on both sides, as a general thing roses on their own roots will prove more satisfactory for the general run of planters than budded stock. On own-rooted stock the suckers or shoots from below the surface of the soil will be of the same kind, whereas with budded roses there is danger of the stock starting into growth and, not being discovered, outgrowing the bud, taking possession and finally killing out the weaker growth. Still, if the plants are set deep enough to prevent adventitious buds of the stock from starting and the growth is alert, this difficulty is reduced to a minimum. There is no question but that finer roses may be grown from plants on their own roots, withstanding the heat of the American summer, if the grower takes the proper precautions.

Before setting out the plants examine each carefully and cut off the broken roots with a sharp knife, as well as all eyes that may appear on the root stock, in order to forestall suckers. It is not possible to set the plants permanently as soon as they are received from the nurseryman; heel them in to prevent drying out. If they seem dry, it may be well to puddle the roots in thin, rich mud just before setting. Make the hole large enough to accommodate all of the plant's roots without crowding, when setting out your roses, remembering—if budded stock is used—to put the budding point not less or more than two inches below the surface. Spread the roots out nearly horizontally, but see that they incline downward towards their ends without crossing one another. See that the plants are firmly set in, using the balls of the feet to accomplish this. Then loosen the soil by raking over the whole

in a light, warm soil. An excellent soil for Hybrid Perpetuals may be obtained by taking the top soil from an old pasture and chopping the grass roots very fine. This same soil, mixed with about one-quarter of its bulk of sand and leaf mould, will make it sufficiently light for Teas and Hybrid Teas. Be sure that the upper third of the bed does not contain any recently added manure, as it is apt to burn the roots of new

surface. After a hard rain loosen the soil as soon as it is dry enough to work, or the sun will draw up the moisture very rapidly.

Almost equally important with the preparation of the soil and the planting of the bushes is the care and cultivation of them. At the time of planting all roses should be cut back—unless you buy stock that has been pruned before it left the nursery. In this case your dealer will so inform you. If the bushes are already established they should be pruned during the first spring month. Cut out weak and decayed parts and such growth as crowds the plant and prevents light and air from having free access. A safe rule is to prune weak-growing, delicate plants severely, and to shorten the branches of strong plants but little, but thin them out well. Prune for shapeliness of plant and promotion of bloom buds.

If one is pruning Hybrid Perpetual roses in spring, cut the canes back to fresh wood, leaving perhaps four or five good buds on each cane. From these buds the flowering canes of the year are to come. If fewer and larger flowers are desired, fewer canes may be left and only two or three new shoots be allowed to spring from each one the next spring.

Always prune a cane about a quarter of an inch above an outside bud, unless the cane is very far from vertical, when an inside one should be left for the terminal shoot. It is quite important to have sharp pruning shears for the operation, to prevent the tearing and bruising of the wood.

Immediately after the June bloom of Hybrid Perpetuals is past, cut back all very vigorous canes perhaps one-half their length, in order to produce new, strong shoots for fall flowering, and also to make good bottoms for the next year's bloom. Too severe summer pruning, however, is likely to produce too much leafy growth.

The pruning of Hybrid Teas and Teas had better be postponed until the first signs of life appear. The bark becomes greener and the dormant buds begin to swell. Dead or dying wood will then readily be noticeable and, it may be, removed. These two latter classes do not need such severe pruning as do the Hybrid Perpetuals. Some pruning during the summer is also useful in encouraging growth and flowers. The stronger branches that have flowered may be cut back one-half or more.

Stir the soil about the roots of the roses frequently, and do not plant annuals among them. To do their best, the plants should have all the nourishment the soil can furnish. Avoid an excessive blooming during the first year of the plant; rather let them take strength into the root and stem for the second season, when results will be much more satisfactory. During the summer make an application of a light straw manure. This will prevent the soil from drying out too rapidly, and at the same time the rains will wash its nutriment to the roots of the plants.

All roses, whenever planted, will have grown greatly by fall. When the leaves have finally gone and



The budding point, as indicated above, should be set exactly two inches below the surface



A cluster of buds will result in a cluster of small flowers

the plant is unquestionably dormant and asleep for the winter, cut back this growth to about three feet. Then draw the earth up around each plant in hills, and fill all the space between these hills with manure. Bend the plants down and cover the entire bed, plants and all, with straw or loose leaves, covering last of all with some branches to anchor these. It is an excellent plan to put the straw on somewhat in the form of a thatch to shed water. Do not apply any of this protective material, however, until actually cold, freezing weather has arrived.

The old saying, that an ounce of prevention is worth a pound of cure, is quite true in the case of roses. And if they are kept in a healthy, growing condition, they are not likely to be attacked by insects, or if attacked, not easily injured. If insects appear, apply the proper remedies promptly and vigorously and keep the ground stirred about the bushes. As a rule, a strong stream of water from a hose applied morning and evening will keep the roses free from insects. But if this is not effective insecticides must be resorted to.

The rose bug is at times very troublesome as well as destructive to the buds. It can be effectively disposed of by a kerosene emulsion made and applied as follows: Shave up one-quarter pound of hard laundry soap and dissolve in two quarts of boiling water; add one pint of kerosene oil and stir briskly for four or five minutes until thoroughly mixed. Dilute to twice its bulk with water and sprinkle it on the bushes with a spraying syringe or a whisk broom. Repeat as often as required to keep the plants clear of the bugs.

About the time the leaves are fairly well developed there usually appears the rose caterpillar. It glues the leaves together to form a shelter and its presence cannot be mistaken. The only effective remedy is to go over the bushes and remove and destroy the leaves inhabited, thereby destroying the pests.

Saw-fly larvæ and other insects appear at a later season than do caterpillars, unless prevented by an occasional spraying. If they should, however, make their appearance, destroy and dispose of them by sprinkling the plants lavishly with powdered white hellebore. It is well to

moisten the bushes before applying the hellebore, as the moisture will cause it to stick to the foliage.

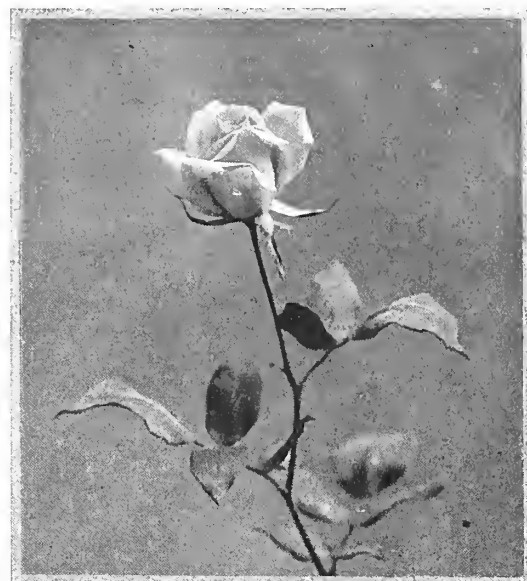
Mildew on the plants is best cured by an application of sulphur, or by spraying with a solution of potassium sulphide, 1 ounce to 3 gallons water. Spray or dust with the sulphur two or three times at intervals of a week or ten days. As with the application of hellebore, the bushes should be first sprinkled with water if sulphur is used.

There are three classes of garden roses—Hybrid Perpetuals, Hybrid Teas and Teas. This does not, of course, include miscellaneous and climbing roses, of which I will speak later.

Hybrid Perpetuals are very strong of growth, flowering freely in June. Hybrid Teas bloom

all summer; although not so hardy as Hybrid Perpetuals. Teas are much more delicate than the two former classes, but also more exquisite, both as to fragrance, color and form, and should certainly not be omitted from the garden.

The most interesting part of planning a rose garden is the selection of varieties. And since roses are such a



The White Shawyer is a free bloomer, much clearer and better than the White Killarney

matter of personal taste, the best way is to make your selection from a reliable rose grower's catalogue. I am giving here, under their different classifications, a few favorites—tried and true—as well as some of the newer varieties you will want to include.

Hybrid Perpetuals: Maman Cochet in crimson, red, pink, white and yellow; Frau Karl Druschki—probably the best-known white rose we have; General Jacqueminot, dark, velvety rose—an old favorite; Margaret Dickson, a lovely, waxy white; Paul Neyron, a bright, shining pink.

Hybrid Teas: Kaiserin Augusta Victoria—white, very fragrant and continuous flowerer—should not be omitted; Etoile de France, velvety crimson; Lady Ashtown, very much like Madame Caroline Testout, salmon pink, but blooming more freely.

Teas: Marie Van Houtte, exquisite yellow, shading to rose; Wm. R. Smith, ivory white, with a trace of pink; Papa Gontier, dark crimson; Lady Hillingdon, delicate apricot yellow.

While climbing roses do not properly belong in the classification of garden roses, still there are so many ways in which they help to beautify the grounds that it is hardly fair to leave them out. The great beauty about them is that they are very free-flowering, hardy, and will grow in any kind of soil and with no care.

In considering rambler roses, it is important to note that they demand very little in the way of care and pruning. The reason for this is that this class of roses flower on old wood, most freely on wood one season old. Therefore spring pruning should be confined to cutting back branches that may be broken or in the way. The regular pruning should be given just after the flowering season, and at this time the oldest wood should be cut out to clear the ground. The other canes need only be headed back and trained into position.

Among the best climbing roses are: Tausendschön, all colors; Dorothy Perkins, pink; Philadelphia Crimson Rambler; and the climbing varieties of some of the best garden sorts, such as Kaiserin Augusta Victoria and White Maman Cochet.

The hybrid sweet briers, a semi-climbing rose—belong to another class. They are especially useful as a tall, informal

(Continued on page 365)



The shoot at the side springs from root stock and should be removed



If all but one are pinched off, that one will grow to appreciable size

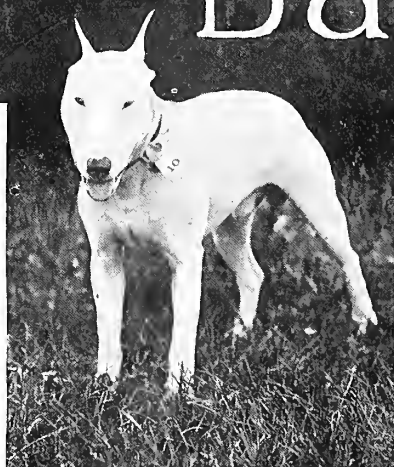
A Good Dog *with a* Bad Name

THE BULL TERRIER—BORN IN THE SWAGGERING DAYS OF THE REGENCY

NINE good people out of ten consider the bull terrier a very bad dog. The mere mention of his name raises before their mind's eye a great, hulking brute of a dog tugging at the end of a heavy chain. They associate him with thugs and corner loafers. They think of him only as a menace to mankind and a threat against all other dogs—in fact, they regard him as a sort of embodied canine curse. The Fates seem to have conspired together wickedly to paint this unfaithful portrait in lurid colors.

In the first place, the poor bull terrier was unlucky enough to have been born too late, nor was he altogether fortunate in the selection of his parents. He made his first appearance somewhere between 1800 and 1810, and he was literally just what his name implies, a cross-bred bull and terrier dog. In itself there is no fatal horoscope to be cast for a dog whose natal day happened to fall within the first decade of the past century, and we, of course, know very well what a good-looking, attractive dog results from the bull and terrier cross. But the two, his birthday and his parentage, proved to be an unhappy combination. They joined in giving the bull terrier, even in his puppyhood, a bad name that has stuck to him all these years.

Ever since the days of Caradoc, King of the Britons, bull baiting had been a favorite pastime in England. The English bulldog, the bull terrier's daddy, won his well-deserved reputation for pluck and perseverance as a very active participant in this so-called sport. His mother, the black and tan Manchester terrier, had also made a name for herself. It was pretty generally acknowledged that she could go into a rat pit, which she was then often called upon to do, and kill more rats in fewer seconds than any other dog. A son of such parents would quite naturally be expected to "do things," and the bull terrier did. Pierce Egan, a sporting authority of those days, expressed neatly the special recommendations of the bull terrier's first friends when he wrote in *The Annals of*



Most people regard him as a sort of embodied canine curse

WILLIAMS HAYNES

—WHY HE HAS BEEN CONSIDERED A BAD DOG—HOW TO KNOW HIS POINTS

Sporting (1822): "He is a more sprightly and showy animal than either of the individuals from which he was bred, and equally apt for, and much more active in any kind of mischief, as has been well expressed. The true bull-terrier is but a dull companion, and the terrier does not flash much size, nor is he sufficiently smart and cocking. The modern mixed dog includes all these qualities and is of an airy temper, without losing any of the fierceness, when needed, of his ancestors. His colors, too, are gay and sightly. We have been, however, performing a work of supererogation, not

at all necessary to our sporting salvation or flash reputé, in varnishing this new dog, which has become so truly the go, that no rum kiddy or man of cash, from Tothill street in the West to Northeastern Holloway, far less any swell rising sixteen, with black, purple or green Indianan round his squeeze, the corner of his variegated dab hanging from his pocket, and his pantaloons well creased and puckered, but must have a tyke of the new cut at the heels of himself or prad."

The hard-drinking, high-betting, swaggering days of the Regency were spluttering out when the bull terrier appeared. In the moral reaction that followed, bull-baiting and rat-killing contests were viewed with just horror. There clung to the dog, however, the memory of his association with these barbarous sports. To-day no one feels called upon to prove that he is a man by betting a thousand golden guineas

His Royal Highness' entry will win the Derby, nor to show he is a gentleman by drinking so much old port he must be carried to bed. Nevertheless, we are not less manly and gentle than our forefathers. The bull terrier no longer gives practical demonstrations of his gameness in the bull pen, nor of his quickness in the rat pit, though he has still courage and agility. We do not cast slurs at a man and consider him a ruffian and a blackguard merely because his great-great-grandfather was a swaggering elegant of the days of King George. Does it seem quite fair to be



The Bull Terrier that wins at the bench shows to-day must be a bright, active dog, moving, as has been aptly said, "smoothly"

less lenient with a dog? But, give a dog a bad name and hang him!

Unfortunately, the bull terrier's bad name, which he so little deserves, has been kept alive. The daily papers delight to tell stories about dogs, very good dogs and very bad dogs. The very good dogs—they mourn themselves into a decline over Master's



He is the product of a century's careful breeding—wedge-nose, blunt, black snout, with dark and bright, almond-shaped eyes

grave, or fish the children out of the mill pond—are always, in the newspapers, a collie or a St. Bernard. The very bad dogs—these go mad or bite the children on the way to and from school—invariably appear in the daily press as a bulldog or a bull terrier. Obviously, all canine vices and all canine virtues cannot be concentrated in these four varieties. This strange peculiarity of all newspaper

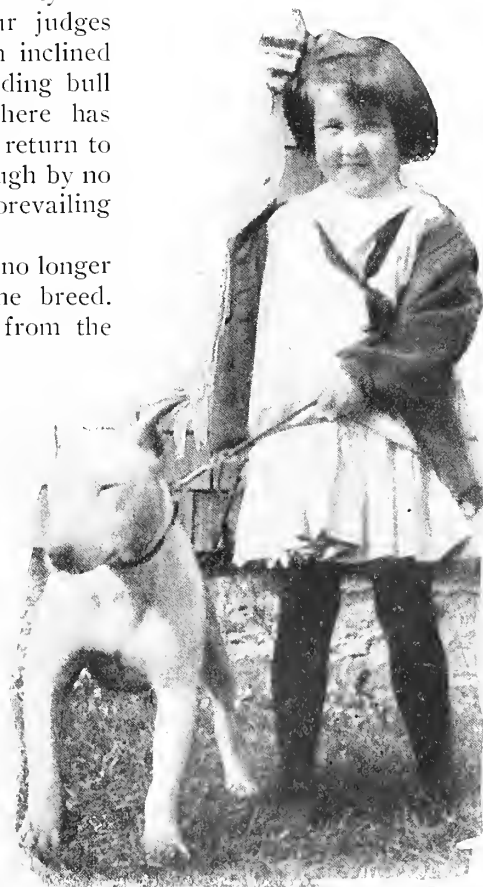
dog stories has, however, done not a little to create the impression that any dog with bull in his name is a vicious, faithless wretch. This erroneous idea has also been propagated by the alleged sport of dog fighting. The dogs fought in the pit are, however, a very different animal from the true bull terrier, though, unfortunately, they often steal his own fair name and go masquerading. In truth they are a nondescript lot, produced without regard for purity of breeding or uniformity of type, the sole object being to get a four-footed fighting machine. Of course, they are game, and of course they are natural born scrappers. In details they differ greatly, and in weight also, but, generally speaking, they are thick-headed, heavy-shouldered animals, marked with spots of black, brown, brindle or yellow, very unlike the wedge-headed, clean-cut, snow-white bull terrier. They are, moreover, quite as different in breeding and disposition as in looks. Dog fighting is a fly-by-night sport, but for this very reason the confusion between the thoroughbred and the pit dog has been fostered.

At the time Pierce Egan penned his vivid eulogy the "new bull and terrier dog" was, in looks, much like the pit dog of to-day. As he now stands, the bull terrier is the product of a century's careful breeding. With the Boston terrier, since both were made out of the same materials, the old bull and terrier cross, he is a striking demonstration of what man can accomplish by continued, conscious selection in breeding. Much, I came near to saying most, of the bull terrier's physical improvement was due to the Hicks family—father and son. In their famous kennels in Birmingham, England, were developed the wedged-shaped head, the distinctive sting tail and the pure white jacket. Madman, Old Dutch, and Gully the Great were probably the greatest of the great Hicks' dogs. Madman was the first dog of really classic type the breed saw. He made his debut in 1864, and proved not only a great winner, but also a great sire. Old Dutch, on the other hand, was no show dog, being very faulty in front, but he possessed a truly wonderful head, and I have had it from "old timers" that to him the present-day bull terrier owes, in a great measure, his clean skull and strong foreface. Gully the Great,

who was eventually imported to this country in 1893 by Mr. Frank F. Dole, of New Haven, was, like Madman, both show dog and sire. Other breeders than the Hickses and other great dogs than these three have been factors in the making of the bull terrier, but even a mere catalogue of their names would fill pages of *HOUSE AND GARDEN*, and there is no room for them in an article like this.

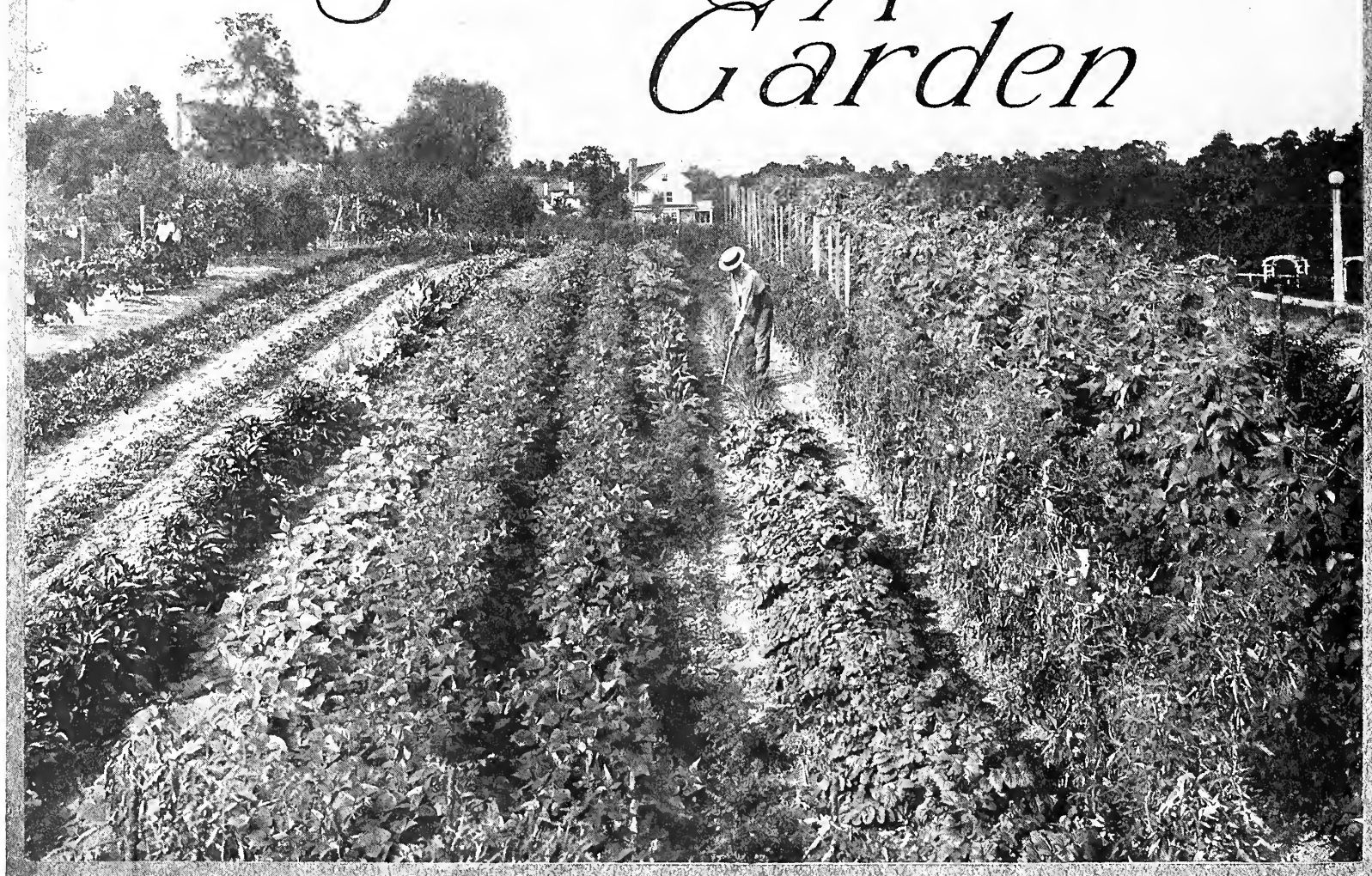
The bull terrier that wins at the bench shows to-day must be a bright, active dog, moving, as has been aptly said, "smoothly." He must stand well up on his toes, with an air of dreamy alertness that is quite typical. His skull must be flat on top, without any stop, or dent, between the eyes. His foreface must be well filled in below the eyes, terminating in a big, black, blunt nose. In these points lie the secret of the wedge head and the famous down face, so distinctive of the variety. His eyes must be dark and bright, almond shaped, and set in at quite an acute angle with the top line of his head. These Chinese eyes of his give him that peculiar, dreamy-wicked expression so greatly desired by all judges. His front, though it is wider than in the other terriers, must be straight, with heavily boned legs and clean, sloping shoulders. Strong, springy pasterns and compact, well-arched feet alone will carry him to the blue ribbon. His chest must be deep and his back shortish, while his hindquarters must be strong and muscular, with well-lowered hocks. A judge expects his tail to be thick at the base and gradually tapering to a fine point, like the sting of a wasp, and he will penalize him if he carries his tail any way but straight out behind on a level with the line of his back. His coat must be fine, round his lips and on his underparts one can see his pink skin through its fine covering, and the hair has a peculiar, satin-like gloss to its whiteness. Any marking, save possibly a very small spot, and that must only be of pale lemon color, will handicap him out of any chance of figuring in the higher awards, since not for nothing is he called the "white 'un." In one thing he has considerable latitude. He may vary from thirty-five to fifty-five pounds in weight. Our judges have of late years been inclined to a lithe, racy, upstanding bull terrier, but recently there has been raised a cry for a return to the old, more solid, though by no means cloddy, type prevailing still in England.

England, however, is no longer the headquarters of the breed. The law disqualifying from the British bench shows any dogs with cropped ears sounded the death knell of the bull terrier's long-standing and well-deserved popularity. The uncropped dogs lose their trim appearance and typical expression, and, as the older fanciers of the "white 'un" gradually drop out, no new recruits fill the ranks. It seems to be but a question of time when the breed will follow the footprints of the Manchester terrier (Cont. on page 365)



In absolute contradiction to all popular opinion, a "white un" is a capital dog with children, kind, gentle, strong and long suffering

Your Saturday Afternoon Garden



The main object of cultivating is not to kill the weeds—it is to keep the crop growing lustily. But, incidentally, the weeds have got to be killed or they will kill the crop, hence the work should be done in such a way that the weeds are destroyed with the least possible labor

THE SECRET OF SUCCESSFUL CULTIVATION—WEEDS AND HOW TO HANDLE THEM—THE THINGS TO PLANT THIS MONTH—SOME RULES FOR PLANTING

D. R. EDSON



Keep all weeds away from the tomato plants

YOUR work in the garden this month will lie along two lines: Planting and keeping clean the things which by now will be well started; and setting out and planting all the later or tender crops. The inexperienced gardener is apt to pay too little attention to the former and possibly go too far in the latter. Planting is so much more interesting that you must be careful not to fall into the error of planting more stuff than you can take care of in the amount of time at your

disposal. If you are so situated that you can give the garden an hour or two regularly every day, a great deal can be done. If your labors in it, however, must be intermittent or limited to Saturdays and holidays, your total result will be more satisfactory at the end of the season, if you have calculated carefully enough, so that you can cope with your work in the garden. And as the fun and recreation to be had in the garden means as much as the products which you will get out of it, you will be only defeating your own purpose in attempting too much. If the garden does get ahead of you at any time, however, do not let a few dollars stand in the way of hiring someone as soon as you possibly can to help you get "caught up." It will be the falsest kind of economy to think you are saving anything by not doing this.

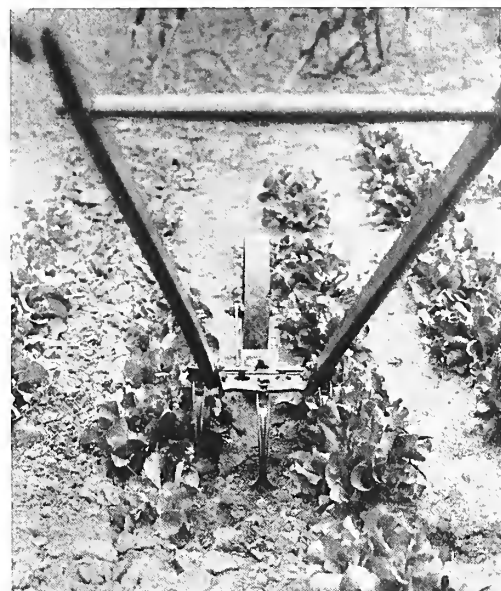
Of course it is much easier to resolve to "keep the garden clean" than to succeed in doing it. But if you begin your season's work with a full understanding of the necessity of keeping right up with your work, and a firm determination to do it the battle

will be half won. And knowing what is to be done, of course, is a different thing from knowing *how* to do it. Simple as the jobs of hoeing and weeding may seem, there is a right way and a wrong way—usually one right and several wrong—of doing each of the several operations of cultivation. Perhaps the best way of explaining the various practical details is to select one particular vegetable from each of the several types grown, and to give its "life history" as far as cultivation is concerned. For this purpose the vegetable garden and crops may be considered as belonging to three groups: Those of which plants already started are set out; those sown in the drills; and those sown in rows in hills. The method of handling cabbages, for instance, well illustrates how plants in the first group—those set out—are cared for; while onions may be used as an example of drilled crops; and corn, of crops sown in rows.

At the time of setting your cabbages, if you followed the suggestions given in last month's article, you had the ground raked smooth and level; and after planting, you went over it again with the rake attachment of the wheel-hoe to make the dust mulch over again where the ground had been trampled down in planting. No doubt that part of the garden, after you did this, looked as though it would be able to take care of itself for the rest of the season. And probably, if it had remained as clean as it then was, you would not have touched it again—with the result that your crop would have amounted to very little! If Providence concerns itself with the affairs of amateur gardeners a generous supply of weed seeds are sown to compel the lazy and untrained gardener to cultivate his crops. If there were no weeds he would be likely to leave his crops until the ground was baked as hard as a brick walk and the chance for any kind of a harvest was gone forever. The prime object of cultivating is not to kill the weeds—it is to keep the crops growing lustily. But, incidentally, the weeds have got to be killed or they will succeed in killing the crop or ren-

dering it worthless; and, therefore, the work should be done in such a way that the weeds are destroyed with the least possible labor.

If two or three weeks after planting you look carefully at your cabbage rows, you will find that hundreds—you will be fortunate if there are not thousands—of little weeds have sprouted and are barely visible. They don't look as though they



After a rain go over the ground with a cultivator to break up the crust before it hardens



Crops sown by seed in a continuous drill should be thinned out at the first weeding



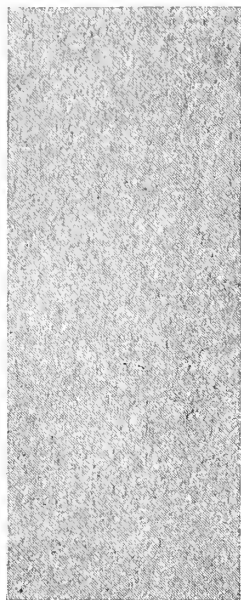
Furrows for the various vine crops should be dug out to a depth of several inches and from eighteen to twenty inches across

would ever be big enough to get the best of a radish, to say nothing about the husky looking cabbage plants that you have set out. But "lay not that flattering unction to your soul." They can get the best of any crop which does not completely cover the ground, although it may be half grown before they start. Don't neglect your sprouting weeds, to see how fast they *can* grow—but just take my word for it! The best time to destroy them is before you can see them without getting down on your hands and knees. In the case of cabbages and other plants which have been transplanted to the garden this is very easy, provided it is attended to promptly. Go over the ground between the rows with the cultivator teeth on the wheel-hoe, loosening it up thoroughly and breaking up every square inch of soil. Go twice in a row if necessary—it will not take a great deal of time, as you

can do it as fast as you can walk. Then with the iron rake or a little hoe (one that you can handle easily and cut up close to the plants is much more convenient to use than the regular size) carefully pulverize each square inch of surface right up to the stem. If your patch is large enough it may pay to use the wheel-hoe *across* the rows between the plants as well as along them.

This is all that will be necessary for another ten days or so, unless you want to hasten the growth of the crops by a very light application of nitrate of soda sprinkled about the plants and worked into the soil. One handful of this material, which is very powerful, will be sufficient for several plants—so that, although it costs a good deal per bag, it costs very little per plant. I would not think of trying to grow early vegetables without it. And I don't think I have ever met a gardener who used it with reasonable care who did not get good results. If you put on

(Continued on page 381)



The pool before the plants about it had attained a full growth looked a bit barren, but by the end of summer its crudities were covered

Making a Pool for Fishes and Birds

ONE WOMAN'S EXPERIENCE IN CREATING OUTDOOR LIFE IN THE HEART OF A CITY—A SMALL GARDEN OF NATURALISTIC EFFECTS—THE CARE OF GOLD FISH

MARIE L. MARSH

THOUGH my back-yard is a garden enclosed with a high vine-covered fence and contains fine trees and pretty shrubs and a splendidly shaded arbor, there was one spot which, until three years ago, I could not make attractive. This was a sandy strip, about 17 x 40 feet, so shaded by the garage that nothing would grow there.

The idea came to me one day that I could turn this barren spot into a fish pond! Being absolutely unhampered by any practical knowledge, I rushed in where angels might have feared to tread—and the results are surprisingly satisfactory.

The pond was not reinforced, nor was it constructed upon scientific principles. My man had never used cement before, and we simply guessed at everything. The outcome goes to show that technical knowledge and skill are not absolutely necessary to do quite effective work.

I began by working with a sharp stick upon the ground an oval 12 x 6 feet; this my man dug out, sloping gradually to a depth of two feet. Our soil is almost pure sand, fine on top and coarse and pebbly underneath. This coarse sand the workmen call torpedo sand, but I do not know whether this is a correct term.

By the time the hole had been made into a fairly symmetrical shape, we had ready a load of cinders and three bags of cement, which quantity proved just sufficient for our work.

The sand which had been turned up by digging was fortunately clean and coarse, so we utilized that in making our concrete mixture.

The hole was first lined with cinders, which were tamped down solid. I think that this layer of cinders was about four inches deep. The cement and sand were then mixed with water to a thin paste, experiment showing the best consistency. We were told that the thinner and sloppier the mixture, the better the final result, and we worked on this basis. I have since learned that the proper proportion is one part of cement to four parts of coarse sand, but I am sure that we used less sand and more cement.

This thin paste was spread as evenly as possible over the cinders. My man had only an old coal shovel and a broken trowel for his tools, but he managed it somehow.

After this was done there was really nothing to do but to wait for the concrete to ripen. In five days it was quite hard, and in less than a week we filled the pond with water and put in the gold fish.

Our soil being sandy, it absorbs water like a sponge, so that all that was needed to drain the pond was a two-inch hole at the bottom, fitted with a wooden plug.

Of course, under different conditions, a small drain pipe could be put in, connecting with the sewers. But it is quite possible to make such a pond without any drain at all, as I can



The construction was easy enough, and, as explained here, any amateur can make such a pool at very little outlay or labor

show, and such a one will be found to work very satisfactorily.

The first summer I was very careful frequently to take out the fish and to empty the pond. I caught the fish in a net and kept them in a tub of water while the pond was drained, scrubbed and refilled. One day the plug was swollen and stuck so tightly that we were unable to remove it, so my man got a tin pump from the hardware store and pumped the water out by hand. It was slow, but it worked; so I know that it can be done.

At first, draining the pond was good sport, but it soon lost its novelty. Then the net got torn and the fish would get out of it, and the whole performance had begun to pall and lose interest. Fortunately, about this time a breeder of gold fish told me that fish do far better when the dirt and sediment are allowed to collect upon the bottom and sides of a pond and the water is occasionally flushed off from the top, leaving such matter as is not carried off in this way to settle and form a deposit.

Experiment taught me that this is true. The fish have done better since I have followed his method. We now leave the water in the pond all summer—only draining and scrubbing it after the fish have been taken out for the winter.

At first the knowing ones predicted that, having but a thin shell of concrete, my pond could not possibly last through a winter. Although slight, this shell easily bears my weight and that of heavy stones as well.

For two winters the water was left in the pond until it froze about three inches, so that we had to break through this thick ice to catch the fish.

After this we waited for a melting day, removed the plug and drained the pond. Both times spring found the concrete intact without any crack or shrinkage; this, too, after below-zero weather had lasted for weeks.

Last winter I forgot to see to the drainage after the fish were taken out, and in consequence the water froze solid to the bottom. The result was a few tiny cracks near the top; these my man brushed over with cement and water, and the pond

is now quite as good as it was when it was newly finished.

By a fortunate chance our pond came out a bit uneven. A part of the north edge is a trifle lower than the rest. When we

fill the pond from the hydrant we put the hose at the very bottom and the overflow which flushes the pond runs out at this depression into a system of small irrigation ditches leading to all parts of the yard. In this way even in the dry weather everything is kept fresh and green.

In constructing a pond, I would suggest that one spot be made purposely a little lower than the rest. It might be an unnoticeably slight depression or it might be featured a bit, as a little concrete channel: in either case it could carry the water overflowed into a little ditch. This channel could be edged with rushes or flags and be made quite effective.

After I had finished my pond and put in the fish I turned my attention to an environment for the bit of water. My idea was to have it look like a lot of greenery run wild.

There were already wild grape vines and woodbine over the trees and fences, and these made a dense background as well as a screen.

I wanted something which would grow quickly and yet have the effect of having been there for a long time.

I did not wish anything formal or

merely snug or neat in appearance.

I had one of the best greenhouse men up and told him my plan. The design he submitted looked like a birthday cake. I ended by having him send up the plants, which I selected, and some men to set them out, and I directed them. The result is a

wildly, unconventional and incongruous mass, which would be a nightmare to a florist, but is a perfect delight to my lawless eyes.

In front of a great thatch of woodbine covering the garage is a Sumac like a fern in delicacy, and under this are Castor beans and Elephant's Ears; while rushes and Iris straggle carelessly up to the water's edge. A long rope of wild grape vine droops from a Butternut tree and waves lazily over the pond or lies lightly on the water.

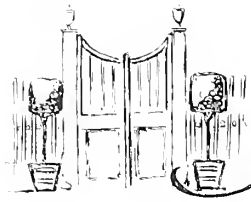
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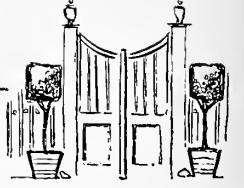
Behind the pool was grown a background of elephant ears, iris and honeysuckle



Children like this sort of outdoor life, and a pool, small or large, makes a safe playground for them. Make a wilderness of flowers around its border and stock with gold fish and you have an ideal substitute for the country



Fences that Beautify



ALTHOUGH the fence is generally an afterthought, and is often planned or provided for only when the building or remodeling of the house has been completed, it bears a distinct architectural relation to the house, and only by considering them together can a successful combination be made. A second relationship exists between the character of the grounds—whether they are formal or informal—and the character of the fence which encloses them. The problems and uses of walls and hedges will not be considered, since here we are



A natural effect has been gained here by placing the fence above a stone course set dry, and fitting the size of the fence to the increasing height of that course. Ramblers grown on the fence add a touch of color

THE RELATION OF THE FENCE TO THE HOUSE AND GROUNDS— GATE POSTS AND THE PLANTING ON THEM—PERGOLA ENTRANCES— THE ESSENTIALS OF FENCE CONSTRUCTION

STEPHEN EDSALL



The Southern Colonial gateway has a distinct architectural relation to the architecture of the house

concerned only with fences, those constructed of wood or iron or with a base of brick or stone. For the purpose of walls and hedges, it might be noted *en passant*, is to close the grounds in such a manner as to insure privacy within, make a background for garden effects and offer opportunity for outdoor living. In that instance the relation between the architecture of

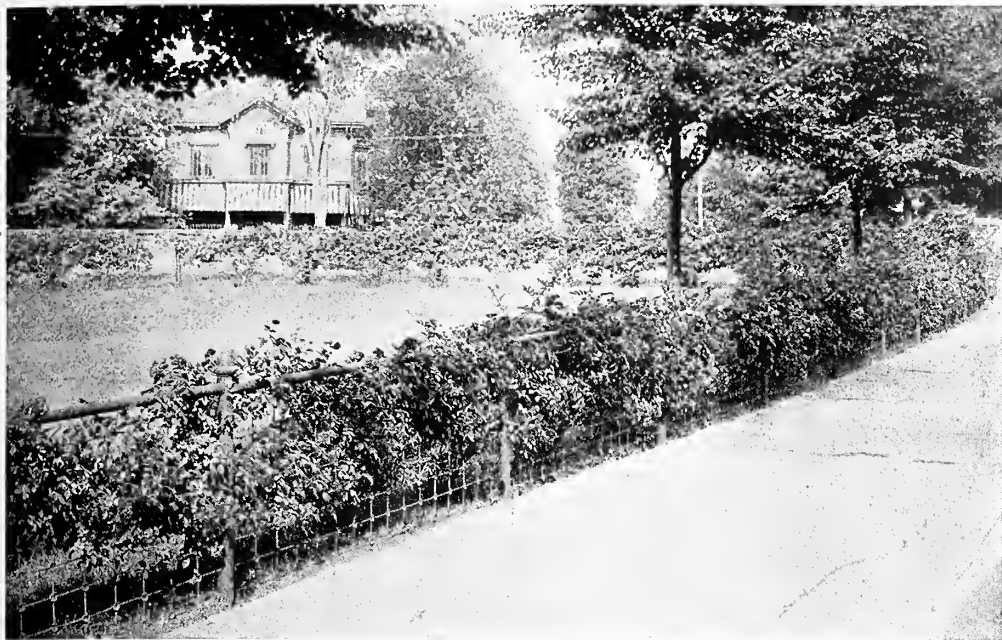
tage on suburban or country places, although in both New England and the South are excellent examples of Colonial city fences that have served as models for later country development and adaptation. And a salient point about the classical types of fences in both these sections is not that they are a byproduct of local carpentry—as many of our modern wooden fences are—but were a sincere endeavor on the part of the architect to tie both the house and its enclosure into a congruous whole. So there follows this rule, which the architect may fortunately be able to impress upon his client—that when the house is designed the fence also should be designed, and not left to the vagaries of the local carpenter. The type of gate, which will be considered later on, depends upon the type of fence and should not be taken as a problem by itself, as is often done with lamentable results.

The first thing to establish before the fence is set up is your right to place it. Make sure of the legal boundaries of your property; the laws differ in different States, and an inch one way or the other may mean an encroachment upon your neighbor's property. We have now and again newspaper accounts of community squabbles which result in the erection of "spite fences"—a regrettable commentary on American neighborhood spirit but generally founded on some encroachment of boundary lines.

Having established your legal rights and chosen the type of

of the house or style of hedge may not be so pronounced. Fences, on the other hand, are compromises with the public. They make no avowed assurances of privacy: you can look through them—see the garden, see the house. Hence the necessity for establishing by the style of fence the proper relations between it and the architecture of the house and the character of the garden.

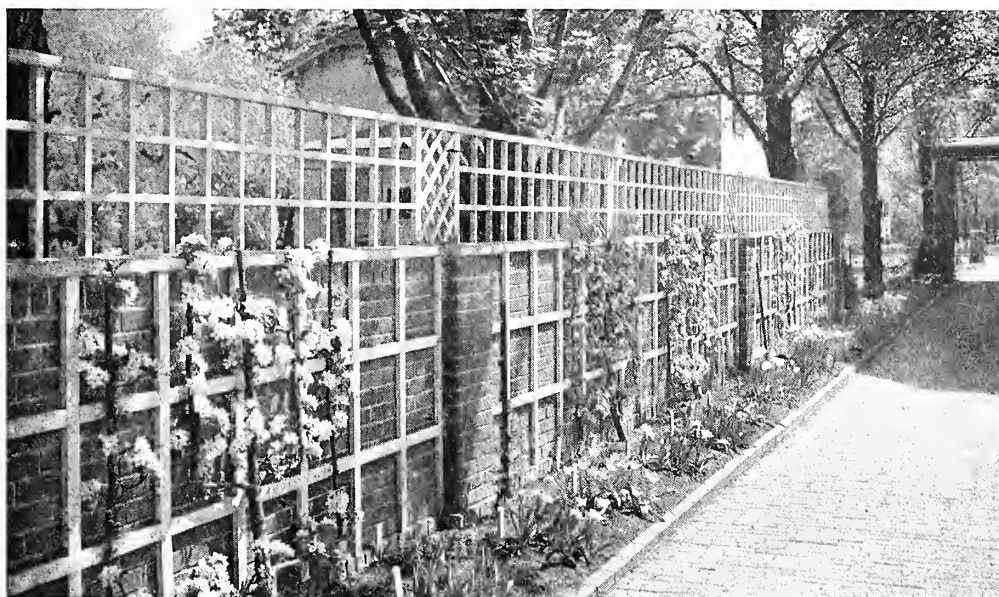
The fence is a product of the American democratic spirit and can be said to have reached its highest point of development in this country. Naturally they are to be seen to the best advan-



To remove the cut-and-dried appearance of an iron or wire fence plant with vines

fence, the matters of construction are next of importance. Whether it be board and picket or any of the variety of wood, picket or iron, the main necessity for permanent construction is the upright, the other parts being readily replaced. Use the woods least affected by contact with the earth, preferably locust or chestnut. Insist that it be seasoned wood and that the ends which will be sunk in the earth are treated for several inches above grade to

prevent wet-rot above ground. The posts can be charred over a fire, which, by the bye, is the Japanese treatment for all the woods they use in fence construction; or they can be painted with white-wash, petroleum, or tar creosote. The last is more effective when applied hot and put on in two or more coats. See that the tops are also treated. Wet-rot above ground, which can often be seen decaying these posts, will be further prevented by grading away the earth so that a pool cannot form at the base of the posts. Moreover, the tops of the posts should be beveled, to assist water in running off, as the wet-rot can readily start at the top once a water pocket has been made. The posts should be set three feet in the ground and eight or ten feet apart. For permanence, the rails should be let into the posts either at the sides or through the center, and bolted. Galvanized nails and bolts should be insisted upon. For a cheap fence use 4" x 4" posts, 2" x 4" rails, and pickets 7/8" square



Such a half-wall, half trellis, is always an interesting treatment and will prove decorative when the planting is further along

set 2" apart; a more substantial fence can be made of 6" x 6" posts and pickets 1" or 1 1/8" square, the rails 2" x 4", mentioned above, being sufficiently strong to sustain the pickets. According to the width of the pickets and the distance they are set apart will depend much of the grace and lightness of the design. This, together with the treatment of the post terminals and the gate, will decide the architectural character of the fence.

The possibilities of the decorative forms of fences are infinite, the first step above the ordinary picket and board fence being the decorative treatment of the post. This consists of three parts—the base, shaft and cap. If the classical mode is desired, the classical mouldings are used, and the shaft may be plain or paneled and the top terminating in a finial, such as a vase, urn, ball or pineapple. The rails also can be elaborated with mould-

ings. As a general rule, it is best to see that the posts are never heavier than the general line of the fence—if the fence is made throughout of wood. In the instance of using brick posts, iron is the best medium for pickets and rails. The combination of brick posts and wooden rails and pickets is rarely successful.

A post over 5 inches square should not be of one piece: the core should be some damp-resisting wood, cy-



When the top of the gate is concave the terminal weight of the gates is lessened and the need for bracing eliminated. Aymar Embury, II, architect



The combination of wall and fence depends largely upon the view from the house or garden, and the point from which privacy is most desired. Thus a front wall and side fence to insure privacy, or a front fence and a wall at the rear of the property to make a background for the garden

press, cedar or redwood, with panels and moulding tongued and grooved into one another, the joints being set in white lead. Fences that can sustain architecturally posts of such proportions are generally of appreciable height and should be well braced, especially near gate posts. The construction law of the gate to be remembered, is that it exerts a strain on its supports proportionate to its weight. If the pickets of the gate are cut so as to make the top of the gate concave in shape, the terminal weight at the end of each gate will be lessened and the necessity for bracing the posts eliminated.

The iron fence has often been looked upon as inartistic. The charge, however, cannot be sustained, certainly not today, when manufacturers are cataloguing such excellent and varied types for all sorts of situations and places. It is a more expensive proposition than wood but more durable. For an effective use, combine brick piers with iron, or provide a brick or concrete course at the base on which the pickets can rest. Care must be taken that the architectural form of the piers coincide with the form of the fence.

The treatment and design of the gateway, as has been shown, depend largely upon the nature of the fence or enclosure, whether it be stone, brick, concrete wall, a wooden rustic fence, an iron fence or one of the various forms of hedges. Should the enclosure be a combination of rustic or iron fencing, backed by a thick hedge just within the fence, the gate and gate posts should be in harmony with the fencing, thus eliminating the introduction of a third type of construction.

For a cottage home an arched and trellised gateway, with a

simple form of iron or picket gates and vine-covered fencing of iron wire, forms a picturesque entrance. It may be a narrow arbor or pergola, formed either of two or more arches set close together, or it may be of rustic woodwork, the roughness of bark and twisted limb being preserved to aid the effect. It should always be covered with vines, for bare pergolas of any form are not successfully decorative. Gateways of stone, either set in

mortar or set "dry," should likewise always be covered with vines. If the stones of the gate posts are set dry, the crevices can be filled with some rock-loving plants that flower in the soil pockets of the crevices.

The question of planting, both on and behind the fence, depends largely upon the height of the fence and its durability. Thus one of the ivies is a good selection for the stone posts, although barren grape, honeysuckle, rambler roses or clematis will be more decorative

if a pergola is to be covered or an arch spanned. It is generally well to back up a low iron fence with a hedge—privet and laurel are perhaps the easiest grown. There can also be used one of the more colorful shrubs—Japanese barberry or *Spiraea van Houttei*. Such a hedge will remove any of the hard cut-and-dried appearance of the iron, which is the main claim against this type of fence.

In arranging for the planting behind a fence for any high shrubbery near it, it is well to consider the location of the best view from the house and not to obstruct it. Often, when the owner desires more privacy from the street, high shrubbery massed around the gate will be most effective. In using evergreens for this purpose, however, see that the masses are not made of a conglomeration of species, such as used to be the fashion.



This is the case of a remodeled house, where attention was given to the relationship between fence and house with obviously successful results

Gardening on Schedule

SYSTEMATIZING THE WORK FOR A BUSY MAN—THE LABOR-SAVING

IT is difficult for a busy man to have time for the upkeep of even a small garden. A whole day given once a week to the work, or an hour's work early each morning or in the cool of the evening, may least interfere with one's daily routine; but the work must be so regular that the weeds do not get ahead. That is as discouraging as it is disastrous. Pulling up large-rooted weeds is as severe a strain upon the garden maker as it is disturbing to the roots of nearby vegetables.

The germination and growth of weed seed are most rapid in warm, humid weather. Under such conditions a clean garden will develop a cover of tiny weeds within a few days after hoeing. Thus it is clear that garden work must be so apportioned that the whole garden's surface is stirred once each week. Weed growth and a crusty surface both become established in a longer interval.

Economy of time depends upon one's skill with his tools and labor-saving devices. A large amount of effectual work can be done with an ordinary hand hoe in a short time, but no one ought to work without a definite notion of the extent and importance of the invisible part of the garden's growth—the root system.

The wheel-hoe is really safer than an ordinary hand hoe, as it is adjusted to the work and leaves little to the invention of the operator.

I once saw a man clear a garden of weeds by scraping the soil from between the rows. At the end of each row he accumulated a pile of dirt, which he carted away. A good top dressing had been applied in the spring, and before the summer was half over it was all removed.

When using the hand hoe about vegetables, the soil is drawn lightly from between the rows toward the plants, smothering all the young weeds in the row. This saves hand weeding and gives support to the stems. (One should not cut into the soil closer than six inches to pea vines when they are half-grown, but merely work the soil over the crusty surface.)

The work of removing weeds between the rows can be rapidly done by sliding the blade of the hoe beneath the surface, cutting every weed from its root. Passing down each row with a steel rake leaves the surface level and fine.

The task of thinning vegetables, such as yellow and white turnips, carrots, beets, etc., may be shortened by the use of a sort of hoe, a piece of metal is cut in the shape of a triangle with edges $3\frac{1}{2}$, $4\frac{1}{2}$ and $5\frac{1}{2}$ inches in length. The handle is fastened to the middle of this triangle. To use it for thinning vegetables, place the proper edge downward in the row and with one draw of the hoe remove the superfluous plants. Even though two or three plants are left where one is to stand, they can be removed quickly with the fingers.

Planting so that cultivation may be quickly and easily done is an object. Radishes in little rows four or five inches apart are easier cleared of weeds than when sown broadcast over a bed.



M. ROBERTS CONOVER

TOOLS—ECONOMY IN PLANTING—THE WORK MONTH BY MONTH

A narrow tool will easily do the work.

For plant-setting a marker is convenient. Use a strip five feet long with the feet and half-feet indicated. At each end, at right angles to this strip, affix strips that are the measure of the distance between the garden rows. To rapidly define the proposed row, lay the rule with the cross-strips extending to the nearest planted row. The spaces for the plants can be quickly opened with a trowel or dibble.

One or more boxes or baskets, durable enough to stand the weather, and kept for gathering vegetables in the garden,

are of considerable value as time-savers.

Weeding done early in the morning is not arduous, and up-rooted weeds will succumb by noon. Any watering of the garden, however, should be done in the evening.

Working one hour each day, one can keep in order a small 40 x 40-foot garden of the ordinary class of vegetables, weeding it with a common hoe and gathering and replanting vegetables. Of course, with a wheel-hoe one would accomplish the work of cultivation in about one-half the time. (Its blades, when set to kill weeds, earth up, or cultivate to a desired depth, do very effectual work.)

Beginning April 1, after the manuring, plowing, harrowing and final raking has been done, and all preliminary work, such as preparing stakes, tools, plans, etc., have been accomplished, the garden work for a small garden, as mentioned above, may be achieved in hour-periods each morning, as defined in the following schedule:

APRIL

First Week.—Mark off rows for early vegetables; drill in with seed drill peas, beets, carrots, turnips, radishes, lettuce, salsify, spinach; plant round or Irish potatoes; set onions and cabbage plants.

Second Week.—Set out cauliflower plants; plant seed for late cabbage; prepare hills for crookneck squash, sweet corn, melons, cucumbers, tomato plants, peppers, egg plants; set poles for lima beans and brush for pea vines.

Third Week.—Plant sweet corn, crooknecked squash, hardy beans, and stir the soil lightly between the rows of vegetables; replant any vegetables that have not come up.

Fourth Week.—During the last week in April the garden's surface should be deeply hoed between the rows of vegetables, to break up any hard condition. All hardy vegetables have been planted and most of them are up, if the weather has been favorable. A second planting of peas, radishes, etc., should be made.

MAY

First Week.—Plant cucumbers, following three days later with
(Continued on page 368)

Landscape Gardening on a Small Place

A GARDEN ON LONG ISLAND SOUND DEVELOPED TO GIVE THE BEST SETTING FOR A VIEW—THE POSITION OF THE HOUSE IN RELATION TO THE GARDEN—WHAT TO DO WITH A WINDING PATH—
HAROLD A. CAPARN, LANDSCAPE ARCHITECT

ELSA REHMANN

THIS oblong piece of land—less than an acre in all—lies between the street and a picturesque inlet of Long Island Sound. An outcrop of rock formed the highest part of the ground, which sloped first gently, then with an abrupt dip toward the water. A few time-worn, but vigorous, apple trees were dotted along the outlines of the land; old, overgrown and intergrown native thorn trees were scattered about in big groups. Such were the existing conditions.

The first consideration was given to the location of the house; later attention was paid to the development of the ground around it. It is always advisable, wherever possible, to consider house and grounds as closely interrelated parts of one problem. Here the unusually well situated house fitted in quite perfectly with the design of the grounds.

The house is located on a rocky ledge. The stone of the cellar excavation was used for the building of the first story. The ledge as an integral part of the house, together with the thorn trees, which are by the merest chance so picturesquely grouped around it, suggested the name of "Thorn-ledge."

The house stands very near the street boundary. It was desirable to build on the highest and driest part of the ground, thus also allowing for the most expansive and intensive use of the grounds. On a small property, this fact is particularly worthy of note. There would have been no advantage in setting the house back from the village street, which has no traffic, while it was very desirable to get a big expanse of lawn as a foreground for the inlet view.

This seems the most logical development, the most natural solution; the only one, in fact; yet you will find that very few people take such important matters into consideration in house building. Even when there is no view, there are many advantages in developing the back of the house as the garden front, as the English and Germans have shown us for many years.



Over the entrance gate arch grow Carmine Pillar roses and *Clematis paniculata* flanked by privet hedges giving it a touch characteristic of European doorway gardens



The house was set on a rocky ledge at the highest point of the property. From it extends a curving pergola of interesting construction that divides the rose garden from the lawn

Convention has taught us to build our houses parallel to the street, and general expediency has found this the best solution for the average house. Breaking from the rule, this house may seem on the plan, at least, to have a most unusual tilt. In reality, it fits so naturally into that position that it appears perfectly at home. It is put on that slant for good reason; there is a fine feeling, harmonious with the natural setting, that indicated a desire of placing the house parallel to the main part of the stream.

This position offered an opportunity for a most interesting solution of the entrance and walk to the front door. It is odd that these problems of entrances and entrance walks are not developed in more individualistic ways, and that they are not better adapted to the character of the house to which they belong.

Here the inset of the gate on the diagonal, the hedge and high shrubbery hide the entrance gate until you are almost

abreast with it. Once inside, more shrubbery, the curve of the brick walk and the tangle of thorn trees which arch over it to hide the front door. Carmine Pillar roses and *Clematis paniculata* on the gate arch, the rhododendrons along the house wall, the laurel around the front porch, the thorns along the walk and the apple tree near the hedge, the Forsythia, the old-fashioned mock orange, the golden chain which has such wonderful wistaria-like pendants of yellow flowers, the Aralia and sumac, grouped in a heavy mass along the side, all these combine in giving continuous interest and color to the entrance walk and emphasizing the informal character of the house.



Inside the gate is revealed the hominess of the entrance with the vines climbing up the stone chimney and the laurels blooming at either side

Service paths on small properties are especially difficult problems to deal with. The monotony felt in many suburban streets where two straight paths cut up each lot front and form tiresome ribbons of paving along the whole street is appalling. Any ingenuity and originality expressed in the solving of this problem is always welcome. Here it seems most naturally done. The little branch path curving off the main path is very simple. Almost hidden by the outstretching branches of the shrubbery borders, it turns off the main path at just the point where it is least noticeable and, with its own curve in the direction of the kitchen entrance and drying yard, it soon fades entirely from view. It has the essential demand of the service paths, as well as all service parts of the grounds: that they be screened and hidden away from all the other parts.

Once inside the house, the hall leads directly to the living porch. From there is the best view of the inlet and the whole

expanse of lawn. It is an unwritten law in Landscape Architecture to put no disturbing element in the line with the vista, to exclude and screen away anything undesirable in the view, and to create a heavy frame for the view. The same trees and shrubbery that here bound the lawn space hide barn buildings on neighboring properties and make a frame for the view.

For the surroundings of most lawns the boundaries should be as high and heavy and impregnable as tall trees and shrubbery can make them. Here the enclosure on the sides is high, but on the lower end of the lawn along the water the bounding shrubbery is purposely low, in order to keep open the view.

Tree and shrub enclosures are absolute essentials to develop greensward into lawns. What they add to the lawn space, to the privacy of the grounds and to the play of light and shade on the grass is not generally appreciated or understood by owners of small properties.

This property is only 150 by 200 feet in area. For a complete and intensive use of a piece of ground—even of this size—more than the creation of a lawn is necessary. That it is worthy and capable of great variety in effects is shown in the development of this property.

A terrace is the means of transition between the house and lawn. The slope was quite steep, the terrace making a comfortable means of approach from the porch steps to the lawn.

Terraces are capable of many forms, shapes and characters. They can be made spacious, dignified, ornate and formal to harmonize with the most elaborate house; they can be as small, simple and informal as any suburban house may require. The small, oblong grass plot is surrounded by narrow brick paths, which in their turn are bounded by unclipped barberry hedging. This is the simplest form a terrace can take.

It is particularly fortunate in winter to have such a sunny spot close to the house. The brick paths make it dry to walk on, and the red barberry berries lend a cheerfulness.

In the first plan for the terrace the grass plot was divided into three panels, a pool in the center with flowers on either side. This idea illustrates how even such a small space can throb with interest, be full of color and be enlivened by reflections.

Steps from the terrace lead down to narrow strips of ground on the east and west side of the lawn.

The eastern side of the property was originally thought out as the service side of the garden, but it is so full of color and flowers that it hardly gives any suggestion of the original intention.



This is the view of the Sound from the house shown opposite. A deliberate attempt has been made to obscure or remove the objectionable and give the view a fitting frame

A path runs along the whole length to a tool house. It is shut off from the lawn by a hedge and for part of the way it is under the curving pergola. This pergola offers support for grape vines. It is very simply built, its curve is interesting, and its pointed roof construction gives a rather quaint impression. It is built very low and is set so far below the terrace that in a very few years it has become almost hidden by the growing trees and shrubbery. It has that quality now of fitting into its place, which is an essential of pergolas which many never seem to acquire.

On the side of the pergola is an oddly-shaped little piece of ground given to roses and small fruits. Many kinds of native and bush roses are planted in a thick mass along the terrace wall. *Rosa blanda*, *spinossissima*, Persian yellow, *rubrifolia*, *rubiginosa* (the sweetbriar), *nitida*, *lucida*, Madam Pantier and *carolina*, to give them in their succession of bloom, make a bright tangle of color for the terrace throughout the rose season.

Every garden should have roses for cutting, and yet Hybrid Tea and Hybrid Perpetual roses can never be associated with shrubbery. It is difficult to find an appropriate place for them in a garden which is developed in such a naturalistic way as this. Here they have been planted with the gooseberries and currants, for both roses and small fruits to develop good flowers and fruit need to be arranged as specimens. If roses cannot have the dignity of a separate rose garden, which is hardly possible in a small place of this kind, and where intensive use ought to be made of every bit of ground, this combination of roses and small fruits is a very good one.

To the north of the roses is the drying yard tucked away behind hedges. Iris and chrysanthemums are planted along the side of the hedge. To the south of the roses is an oblong plot originally planned for the vegetable garden. In a logical development of a piece of ground around a house all the service part of the ground is kept together. It can then be easily screened away from the other parts and can be easily taken care of. As here, it is best always near the kitchen side of the house.

If the lot had not been capable of expansion the oblong would

have been the only possible place for the vegetable garden. As it is, the vegetable garden was transferred to a strip of ground along the southern side of the property, some six feet below the level of the lawn. For all intents and purposes, as far as the view and the garden are connected, the vegetable plot does not exist, still it yields its full quota of vegetables in a good, sunny, southern location.

This change from the original vegetable plot is quite an advantage. Vegetable gardens are not especially attractive and should be put as far away from the house as possible. This change gave an opportunity to transform this oblong into a secluded little nook, which has a certain distinction despite its diminutive size.

The great old apple tree makes it a nice, shady little spot. The roots of the tree made any planting on the oblong a difficult matter, but, as in the solution of many problems, its very limitations created the best development. The ribbon border of flowers with the simple lawn space between gives a charming effect. Yellow iris grow on one side, white and pink peonies along the other. When in bloom they give a brilliant color effect, at other times the decorative peony foliage and iris sheathes make a good border effect for the little lawn.

While the east side of the property is allotted to utilitarian purposes, and shows in its development how pretty such a useful little strip of ground can be made, the west side was developed purely in a decorative way.

The outcropping ledges immediately to the west of the house are overgrown with wichuriana roses and in among them such rock plants as the yellow-flowered *Sedum*, pink and white *Phlox subulata*, and *Helianthus* making bold and striking groups of autumn bloom.

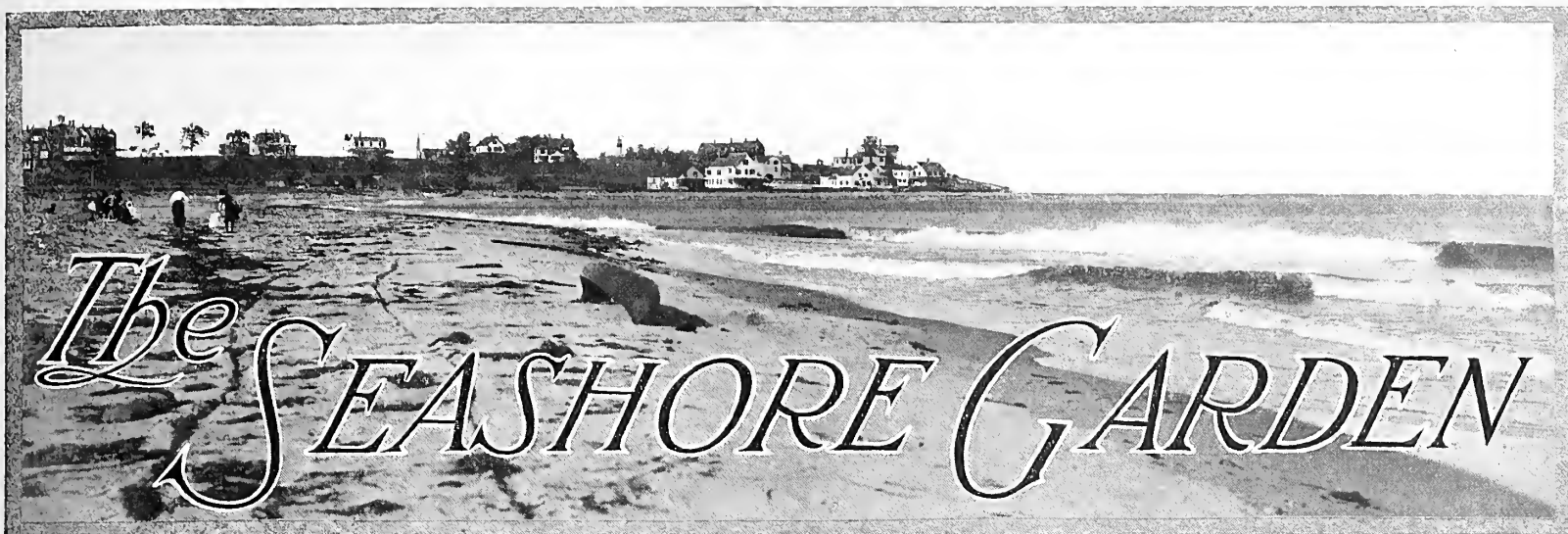
A west path, starting at the terrace and making a big, generous curve to the extreme western side of the grounds, balances the path along the east side. Each path has a distinct character and is quite different

from the other.

(Cont. on p. 369)



The west path is informal, passing through masses of shrubbery that stretch their branches over it. Low-creeping flowers grow over the rough stone edging, and here and there the shrub mass is broken to give views of the lawn through the gaps



The first thing to plant in a seashore garden is a wind-break of privet and native trees, for without it the sea wind can be counted on to shrivel off leaves from the most promising plants

PLANTING A WIND-BREAK—NATIVE GROWTHS FOR NATURAL EFFECTS—LILIES AND GRASSES

V. F. PENROSE

DO you want a garden in the sand where east winds rage? First plant privet as a hedge. By the hundred or thousand rates it will not be very expensive, and you *must* have protection. Of course, the native bay is more according to nature, but it does not grow so quickly. When you have a dense growth of privet there is something to break the sea wind, which baffles most gardeners, and can be counted on to shrivel off leaves from the most promising vines and trees if unprotected.

Top-soil is necessary if you are in a hurry and cannot allow a lot of manure to ripen and lie fallow on your sand, to be dug in after a full winter. Fall planting gives the best results for most things, and top-soil, plus manure, will hasten matters. I save all cuttings from shrubs and flowers to mulch with in the late fall or during the hot, dry season. Tamarisk makes a wind-break in Bermuda, but it seems to need first a good wind-break itself in New Jersey, then grows dense with much clipping, forming an attractive background for shrubs and flowers.

As stone houses are not always to be found, foundation planting around a frame house, especially with evergreens, means much damage to it in the necessary every three-years' painting of all your woodwork. And are you not a little weary of the same style of planting wherever you may go? By our ugly lattice-

work around the high-set porches, deciduous, tall things like bocconia and boltonia, which grow up from the roots, have proved most attractive and suitable. The painters do not hurt them. They grow, when such work is done in the fall, or early spring, in fine style. Mallow marvels could be used in the same way if desired. Remember, however, that they must be cultivated during their growing season—June.

Ailanthus glandulosa, the female form, helps make high walls, if you want protection from neighboring eyes, as we did. It hides ugly garages, etc. For it is often the "etc." that must be considered. Red cedars transplant easily, and are usually to be had for the digging, along inland roadsides. Many native growths may be had, but often you will find better results with nursery stock. Elders will grow twelve feet tall. You must be content to wait three years for real transformation unless you can afford to buy large stock, and even then it may die down. My native gardener advised me to "buy small things." His advice has proved its own worth.

Catalpas are most attractive in the native growth. The clipped and formal planting, *Catalpa Bungei*, may do for some large places where "style," more than beauty, is "the thing," but the
(Continued on page 370)



An arbor can be made from cedar posts covered with wire netting, over which vines—clematis and honeysuckle—can grow



It is best to follow native growths—let the privet be untrimmed, forming a background for lilies and border plants

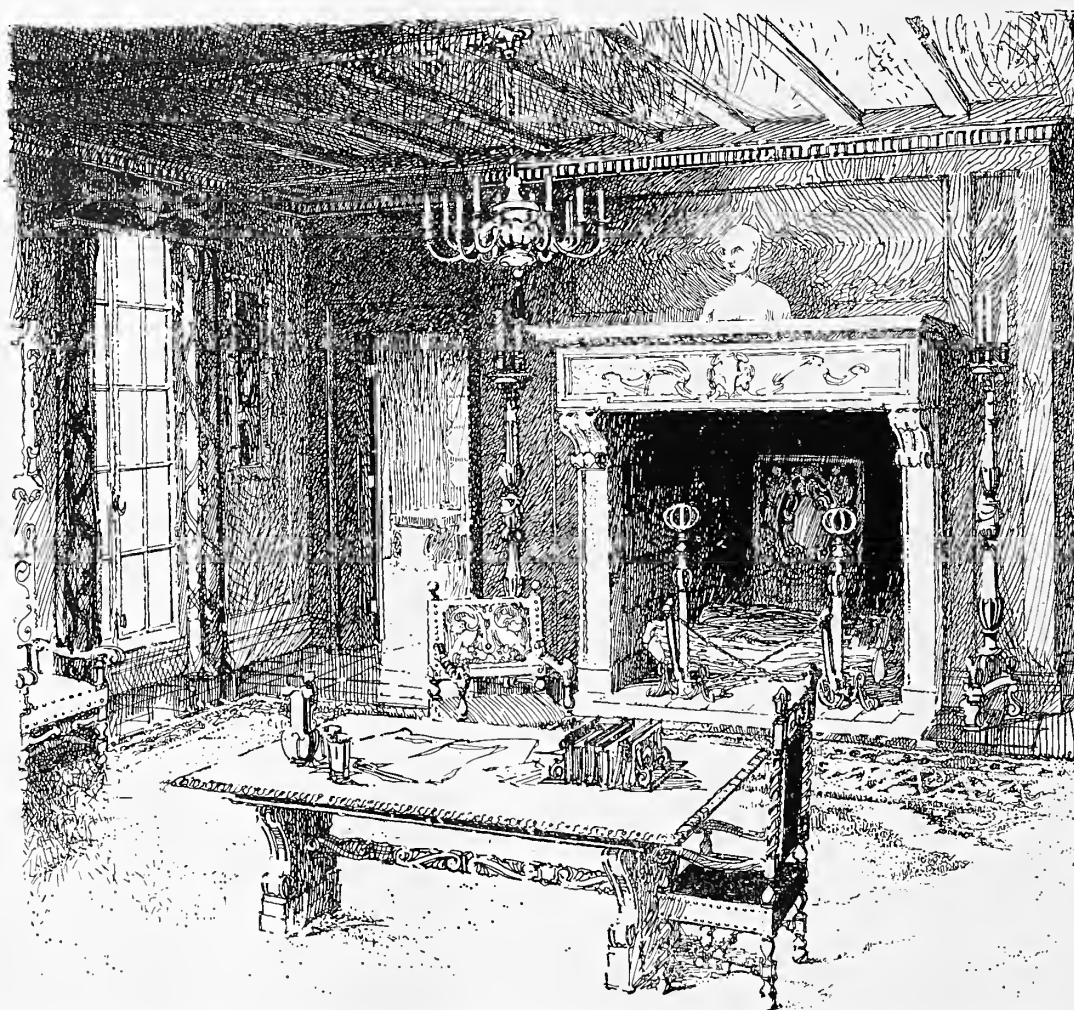
The Uses of Woodwork in Interior Decoration

THIS that we have called the *Italian Style* in room decoration is not an historic style in the same sense as the Adam or the Jacobean. It was developed here in New York and is perhaps as distinctly American as any manner of room decoration; we call it Italian because in spirit and in ornamental detail it follows the work of the early Renaissance of Italy or the Roman work of the classic Imperial Age whence came the inspiration of the Renaissance.

Its origin is interesting. Twenty-five years ago or more, wealthy Americans traveling in Italy began to buy and bring back with them old furniture and carved marbles, chimney-pieces, candelabra, tapestries, hangings, bronzes or wood-carvings, and these exquisite objects required a suitable

background in the new house of their purchaser. This the architect set himself to find; they must, of course, dominate the room that was to hold them; the wall should serve as background merely, but must avoid a museum-like bareness. If the objects were of light stone, gilt wood or rich in color, what could be finer than dark wainscoting with the great veneered wood panels our carpenters were just then learning to construct? Complicated mouldings in the new work were eliminated, and, of course, all unnecessary carving, for the grain of the wood was of sufficient richness; the more beautiful its convolutions and the rarer the wood, the better. Our own White Oak was excellent, but better still the darker knotted English Oak or the Betula or Circassian Walnut.

So the veneered or built-up panel was developed, or, more properly, revived; for something similar had been used before in the mahogany cabinet work of the early Eighteen-Hundreds. Sometimes the precious wood was cut in thin slices by a rotary saw,



This type of room is called Italian, because in spirit and in ornamental detail it follows the work of the Early Renaissance of Italy or the Roman work of the classical Imperial Age whence came the inspiration of the Renaissance

THE ITALIAN STYLE AS DEVELOPED IN AMERICA TO HOUSE FOREIGN ANTIQUES—BEAMED CEILINGS AND THEIR MODERN CONSTRUCTION—VENEERING—CHEAPER SUBSTITUTES TO CREATE ITALIAN ATMOSPHERE

ALFRED MORTON GITHENS

curls in one direction, across the grain, not appreciably in the direction of its length; a wood panel three feet wide, if not veneered, would curl and split to pieces.

A wide panel is built up of five layers, the inner three in the best work of White Pine or Chestnut, for these two are the least given to warping or twisting. The center layer is about as thick as one's finger, the grain running *lengthwise* of the panel, and is itself glued up of several strips laid edge to edge. Next it on each side is glued a layer about as thick as a book cover, the grain running *crosswise* of the panel. This makes a firm core, for any tendency of one layer to twist in one direction is counteracted by the tendency of the next to twist in the opposite way. On one side of this *built-up core* is glued the thin sheet of finishing wood, with a strip of commoner wood of equal strength on the other.

The carpenter receives the finishing wood from the mill already cut in sheets, but they are kept together in their proper order;

thin as a sheet of cardboard; sometimes the log was steamed or boiled in water until spongy and then sliced with a huge knife, a cheaper but inferior process, as a warped and twisted veneer resulted that was more difficult to handle and not so enduring, though far more so than a panel would have been if cut from a single piece.

Veneering is much maligned and misunderstood; "Veneer" seems, in the average mind, to imply something ignoble; the furniture salesman of the department store takes pains to explain that this piece is "solid" mahogany or oak, not veneered; but every carpenter knows that a veneered and built-up piece is stronger; more expensive, too, unless the finishing wood is very rare. It stands to reason: wood shrinks and

he separates them, keeping the sheets in their sequence, spreads them out and trims and glues them on the core, carefully matching the patterns in the grain, for the panel is often larger than the sheets of finishing wood. The system is quite evident when one examines any wide, hardwood panel. What appears a single piece is made up of two, or four, or six, or eight pieces of veneer, as the case may be, and counting the inner layers, of perhaps twenty separate pieces. This is, of course, expensive. For our Jacobean room last January we quoted a price for good, solid-panel wainscoting, of about \$1 a square foot, set in the wall and finished; the veneered work would cost \$1.50.

In the room we have illustrated the dominant is the chimney-piece. The first that were used in modern rooms were taken bodily from the old palaces, but ours might well be a cast concrete reproduction. A large fireplace is characteristic of the style. We mean "large fireplace" literally, not a large chimney-piece fastened against a small fireplace. It is never successful to set up one of these great hoods with its supporting pilasters and projecting corbels and then fill underneath it with brick or stone until the usual 30" x 30" opening is left. Better have the large fireplace or give up the type altogether!

A large fireplace means a deep fireplace as well, and a big flue. The flue should be $\frac{1}{10}$ or $\frac{1}{12}$ the area of the fireplace opening.

The 30" x 30" fireplace requires $\frac{30" \times 30"}{12}$ flue area, or an

8 x 12 flue lining, which, actually installed, means a 7 x 11 flue, since the standard flue lining is somewhat smaller inside than its list dimension would indicate. Our fireplace is 58" high by 62" wide, so it requires a 24" diameter flue; we give the diameter, for the larger linings are round in cross-section. Eighteen or 20" in depth is sufficient for the small fireplace, but ours must be 30" at the very least, measured from the back of the hearth to the floor immediately under the front of the lintel. The lintel should not be flat underneath for more than 4"; beyond, should slope upward and back, so the ascending smoke cannot strike a flat

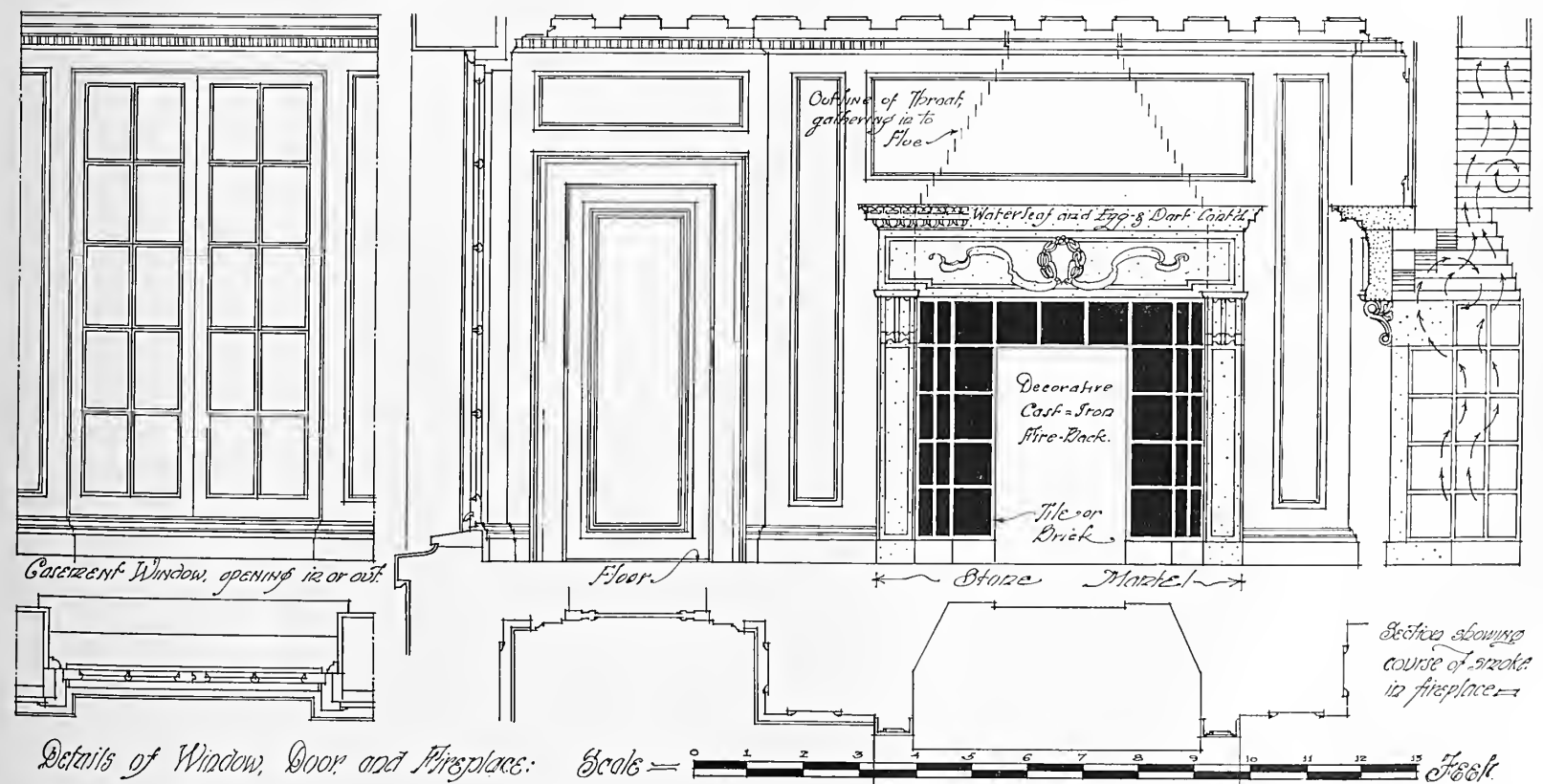
surface and roll out into the room. Back of the lintel is a tent-shaped space, called the *smoke chamber*, narrowing at the ridge to a slot the full width of the fireplace and equal in area to the flue; above and back of the slot a ledge forms the base of the "throat," a pyramidal space gathering at the top to the flue, and so up, without unnecessary bends and without change in cross-sectional area, to the top of the chimney, slightly higher than any nearby roofs. Such a fireplace is certain to draw well.

Another way, but not quite so sure, is to combine *smoker chamber* and *throat* in one pyramidal space gathering directly into the flue, without slot or ledge. A standard iron *damper* might be set above the smoke chamber, which, closed in winter when the fire is not lighted, prevents loss of heated air and a chilling of the room; but a damper is not necessary. The important things seem, first, to have the flue large enough for the opening and, second, to have the fireplace deep enough. The flue, we said, must be at least $\frac{1}{12}$ the area of the opening; the depth must be at least $\frac{1}{2}$ the height of the opening; better rather more.

A mantel, such as we have shown, cast in concrete stone from an old Italian model, if it be one of the types kept in stock by the larger mantel manufacturers, would cost between \$80 and \$160, depending on the elaboration of its ornament. A brick hearth and brick back and jambs would be satisfactory; an ornamental cast iron fireback set in the brick is interesting but not necessary.

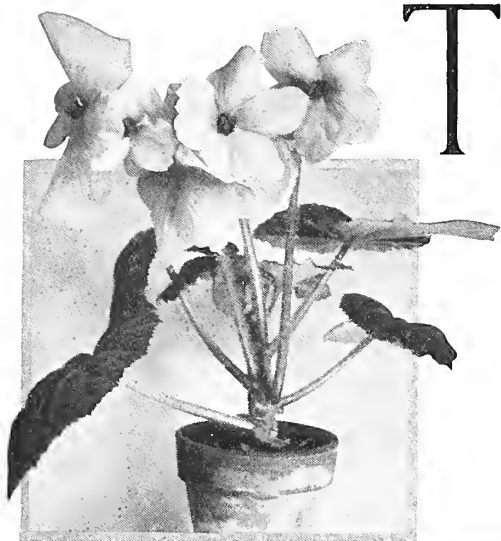
In an earlier article we referred to the remarkably good replicas of old mantels in the stocks of certain dealers; in buying such a mantel one has the very best work of a good period perfectly reproduced, at a cost far below what one would have to pay for a mantel specially designed; for, of course, if an article can be found in stock it is inexpensive for value received; if the manufacturers can make many from the same model they can afford to sell for less. Doors are an instance. We have said that veneered work in large panels was more expensive than solid work in small; yet there are excellent single-panel hardwood veneered doors made in the Middle West that are as cheap as the most commonplace

(Continued on page 384)



In the Italian room the dominant note is the chimney-piece. At first those used were taken bodily from old palaces, but to-day cast concrete reproductions are to be had at a reasonable price. The fireplace itself must also be large, not merely a large chimney-piece fastened against a small fireplace

Efficiency in The Flower Garden



Begonias propagate readily, and from a single plant can be had all the plants one needs the next year

THE term "bedding plants," as ordinarily used, applies to those plants which are usually bought in bloom or in bud in pots at the florist's in early spring for setting out when danger of frost is past. Formerly, when design and carpet bedding was still in vogue, many of these plants were put to such atrocious uses by the *soi-disant* landscape "artist" that their reputation is still bad, despite the beautiful effects which may be had with them in combination with other flowers, if good judgment and taste are exercised.

The commercial list of budding plants include many biennials and tender perennials; a number of annuals, too, are grown and handled in the same way, such as asters and sweet alyssums; in fact, there are available flowers which are adapted to almost any condition one is likely to meet.

Planning a garden with bedding plants is in one way very much easier than with any other flower materials. In the first place, they bloom, for the most part, pretty much throughout the whole season, and, as they are quite well grown when you get them, they can be readily fitted into the garden scheme because you can see actually before you colors, sizes and shapes. Moreover, results are immediate. The garden may be forsaken looking on Friday night, with here and there an old stub of a last year's plant; on Sunday morning it may turn to the world a whole range of fair flower faces in various hues, or in one brilliant mass effect of color that entirely transforms the landscape. They are particularly desirable for use where for any reason the garden has to be fixed at the last minute; as when, for instance, one has a country place that is not opened up until the first of June, or when one rents a cottage for the summer and wants to brighten



Geraniums are the most satisfactory bedding plants, and many of the newer sorts are excellent for cutting

it up quickly without waiting to grow anything from seed.

Like every other class of flowers, however, bedding plants have their disadvantages as well as their unquestionable advantages. In the first place, they are more expensive than plants raised from seeds, as far as the actual cash outlay is concerned—and even when you are trying to be efficient in your flower garden, you will hardly go so far as to charge up to each plant the time you have spent in sowing, transplanting and repotting until you get it to the blooming size. The florist, of course, *has* got to charge these little items up or else he would be soon swelling the grand army of the unemployed. Then, of course, these plants, or at least practically all of them, must be had new every spring. If you have the means of doing it, you can take cuttings and grow your own supply of plants, which not only makes them cost little, but will



Wherever a dazzling mass of red is wanted throughout the season, salvia (scarlet sage) is unequaled

also furnish you with a great deal of pleasure, particularly as it will make your flower garden last throughout the year, instead of only for a few months during the summer. There is another disadvantage in the bedding-plant garden: the trouble of remaking the beds every season. This may



Besides adding a touch of color, the faint perfume of mignonette is appreciated in the sweet-scented garden



The secret of success with a garden made of bedding plants is to choose the right plants in the beginning—getting healthy plants in bud rather than in bloom—and then giving them the same judicious care that one would give to any other garden



Ageratum makes an excellent border where blue and white is desired. It is more sturdy than alyssum

or may not be a disadvantage, according to circumstances—a bed that is well cared for and has good soil requires very little work in the spring.

The improvements which have been made in recent years in the various kinds of bedding plants are fully as wonderful, although not nearly so well known, as those among roses and carnations. The humble geranium, for instance, has been improved, until now there are several hundreds of new varieties, among which dozens of fine kinds are hardly known at all. There are several new sorts of bedding begonias with flowers fully twice the

size of any of the older sorts; a violet-colored sweet alyssum; asters that are as beautiful and as large as chrysanthemums; and so on through the list. The large part of the pleasure of gardening is to keep oneself familiar with the new developments. The new things, of course, cost more, but as most of them are easily propagated, a plant or two bought this spring will furnish you with a goodly supply by another season.

Despite the fact that bedding plants are more commonly misused than any other class, the fact (Continued on page 387)



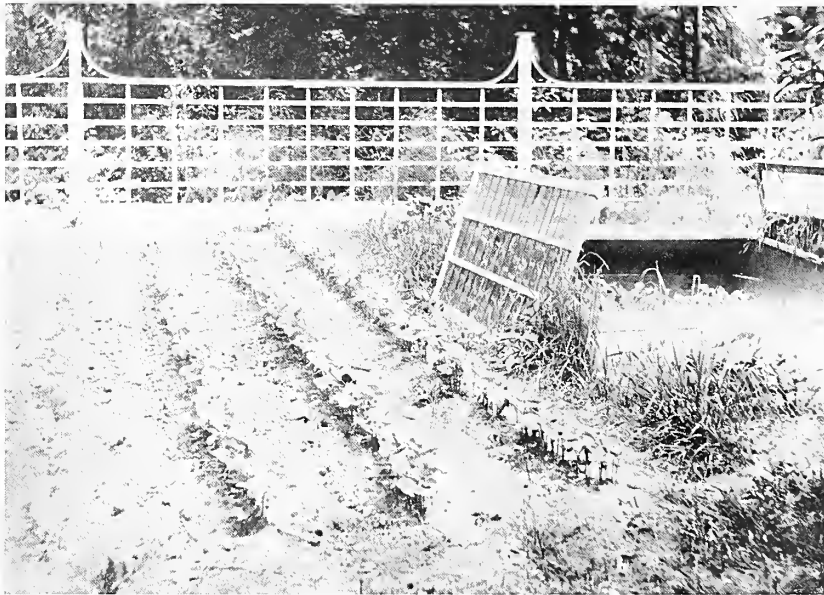
Asters are the poor man's chrysanthemums. For both bedding and cutting they are favorites

My Suburban Garden

HOW A PRACTICAL GREENHOUSE WAS BUILT AT MODERATE COST—ADDING A BARN AND CHICKEN HOUSE TO THE GARDEN EQUIPMENT—THE BEAN ARCH SYSTEM—A RECEIPT FOR MAKING HENS LAY

WARREN H. MILLER

WE were so much encouraged by the performance of our hot frame, with its crop of lettuce in mid-January, that we decided to "shake the same tree again" on a larger scale. I had no intention of letting myself be drawn into a regular greenhouse scheme, with a hot-water heating plant that would have to be fed day and night. I am a busy commuter and have quite enough



A corner of the garden on May 20: beans for six, four 30-foot rows. The lettuce in the hotframe is ready to set out

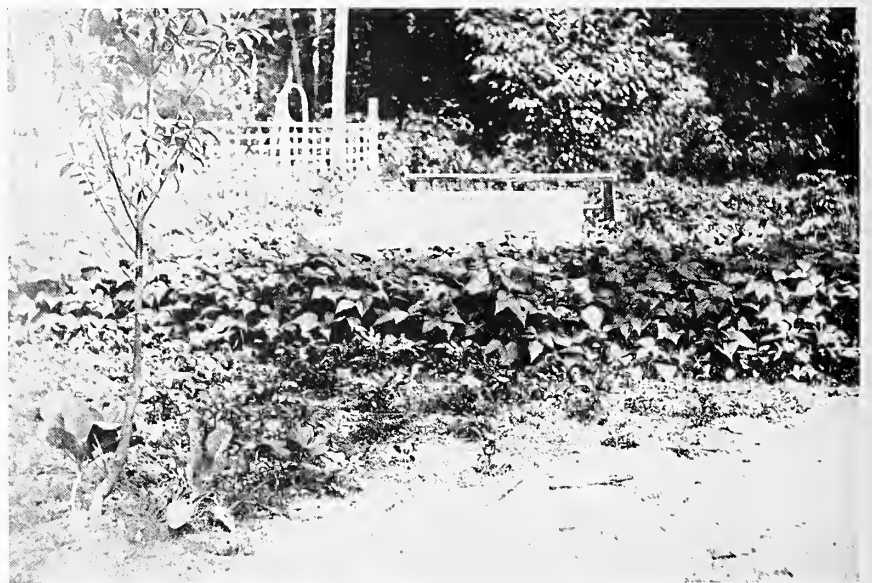
to do to keep the furnace from going out unawares (which it is always seeking a favorable opportunity to do), and all we wanted was something to grow the more hardy vegetables in winter, something that would start all sorts of early seedlings for the garden in February—tomatoes, egg plants, lettuce, radishes, celery, peppers, cabbages and flowers. If a hotbed could do this on a small scale, why could not a glorified hotbed, in which one could stand up and work, do it still better? So I built the little 9 x 12-foot greenhouse, at a cost of \$24 for eight 6 x 13-foot glass sashes, \$4 for boards and \$4 for timber and paint.

I first sawed out eight 12-foot trunks from my forest trees and four 9-foot ones. These I sawed bevel, to match the corner posts, and piled them in pairs, one above the other, spiking them to 3" x 3" posts at the corners and to rough 3" stakes on the inside. Parallel to these, and 3 feet inside of them, went two second pairs of logs. This gave me a rectangle 9 x 12 feet with two 3 x 12-foot beds in it, which were forthwith filled with fresh fermenting manure destined to furnish the heat for the little greenhouse. Next went on the 7/8" x 12" top trim boards, nailed to the four corner posts, bringing the total height of the greenhouse wall up to three feet; and earth was then banked up outside of the logs to the bottom of these trim boards and sodded, the slopes being planted in Cuthbert raspberries. Two 3" x 3" central upright posts now went in at each end and on them the main ridge pole, a 4" x 4" smooth-dressed timber, set in a notch in the upright with

its corners up and down. To this was hinged the eight sash frames, four on a side, with their lower sashes resting on bevel moulding nailed to the top of the trim boards. Plain vertical planking, with weather strips nailed on the joints, closed in the ends. The whole was given a coat of white paint and the greenhouse stood finished. I could have had triangular glass sashes made at the mill for the ends, but the corning of No. 2 crown moulding had to agree with the house architecture, so I did not bother with any special sash work.

The 3 x 12-foot beds inside were given a top dressing of rich soil and planted in February to all the standard early vegetables. On very cold nights I have a lantern in the house to help out with the heat; otherwise it requires no attention. I also got rid of the outside nuisance by putting in a set of window shade-rollers under the roof sashes. The rollers are on the usual iron roller brackets, secured inside the trim plank at the eaves, and the shade pulls upward to the ridge by a cord through a small galvanized pulley stapled to the ridge. This greenhouse is no trouble at all and we can grow almost anything in it except the really tender hothouse exotics. Its central walk is 3 feet wide, floored with concrete with a basin aquarium 6 feet long by 18" wide, and the inner logs are left in natural bark.

Between the north pergola and the space allotted to barn and chicken house is about 40 x 25 feet of room. Along the privet hedge side of this I put in a border of raspberries and blackberries 4 feet wide, with a Baldwin apple tree at each end, corresponding to the two Kieffer pears still standing where the old west border was. A Satsuma Japanese plum went in the border midway between the Baldwins as a filler, and on the north side I put in another Champion quince, to help the first one set fruit. This plot was now surrounded by a rectangle of young fruit trees, leaving a bed 20 feet x 40 feet, which at once received the title "West Garden." What should we plant there? If I were starting from the beginning, I should certainly set it in asparagus, as here is a large bed, apart from



Here are the same beans in July—a solid wall, all you can eat and preserve. The young peach tree was planted in April

the main garden, ideal for a permanent planting like asparagus. As it was, the north border of the garden held our asparagus, with roots now five years old and impossible to transplant, so the West Garden was planted for the first years in six rows of corn on the west side and three rows of lima beans on the east, using the bean arch scheme so successful the year before.

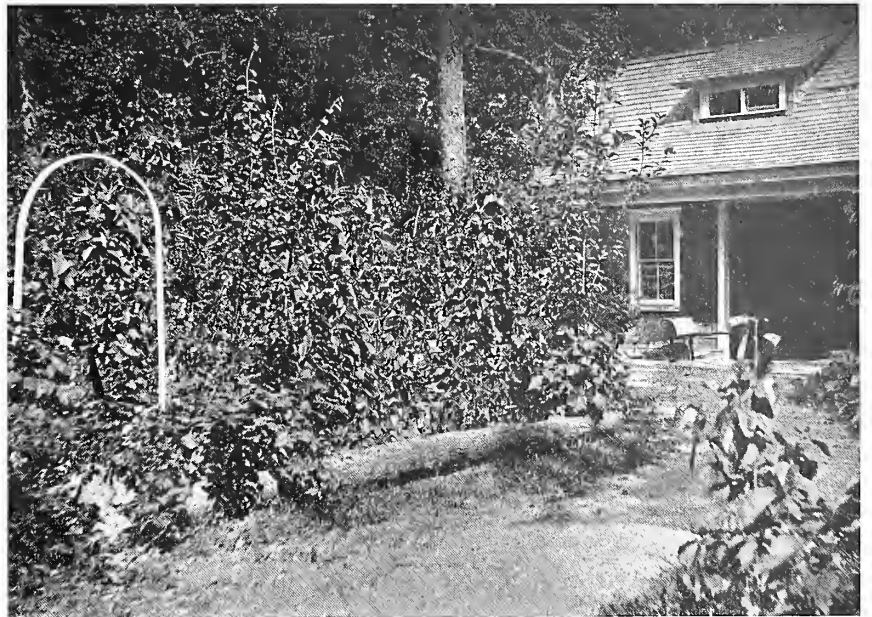
During February I was very busy building the barn and chicken house. As I did every stick of it myself, from the post foundations to the outside trim, it goes to prove that any commuter can amuse himself successfully that way, provided he will buy himself a *real* saw, not a tool-box one, and a real hammer, not a five-and-ten-cent store specimen! The former cuts like an angel, with no particular muscular outlay involved, and the latter never pounds your thumb nor glances off the nail-head and maims your left forefinger, as the cast iron variety is sure to do. The barn is 12 feet x 18 feet, with a 6 x 8-foot concrete porch, and a concrete floor, the whole in keeping with the architectural treatment of the main house. It will accommodate one horse and carriage, and four dogs. The second story is a Retreat, used by a certain writer when the main house gets too noisy for invoking the Muse. It is my "dope" den, photographic studio and literary workshop in one; by "dope" being meant filed archives of reference pamphlets, facts, figures and philosophy. None of these are tolerated in the main library, and they used to occupy a dark closet, where chasing a fact to its lair involved a day's work with a dark lantern.

The door of the barn is 8 feet wide x 7 feet 6 inches high, and it will accommodate a small "car," in lieu of horse and carriage (which God forbid!). There is room also for garden tools, wheel-hoe, lawn mower, hose reel, wheelbarrow and such accessories before the fact which used to clutter up cellars and rear halls in the main house. It cost \$148 for materials, and a contractor would duplicate it for you for about \$800.

Let us now turn to the arrangement of the main garden. The success of everything in the rear border the year before now emboldened me to put in again the trees originally planned for this space. I accordingly set another Baldwin in the angle between the barn and rear trellis, two more Bartlett pears, spaced twenty feet between it and the Early Harvest Apple tree at the end of the main garden path, and another Black Tartarian cherry in the border back of the East Garden, between

the two Early Harvest apples. This is practically the same planting as went in there two years ago, all of which died; but this time the earth was a foot higher, the soil mellow and sweet and well manured, and everything planted in it "went along like a house afire."

In the new plan you will note fewer sorts of vegetables and more rows of each kind. The problem for a commuter's garden is to raise only the sorts which do not require much nursing and tending; broad-leaved vegetables, which keep weeds out of their own row and only require the wheel-hoe to be run down between the rows once a week to keep the weed population under. For this reason I omitted all the narrow-leaved vegetables—onions, leeks, salsify, carrots (except in a dense bed for

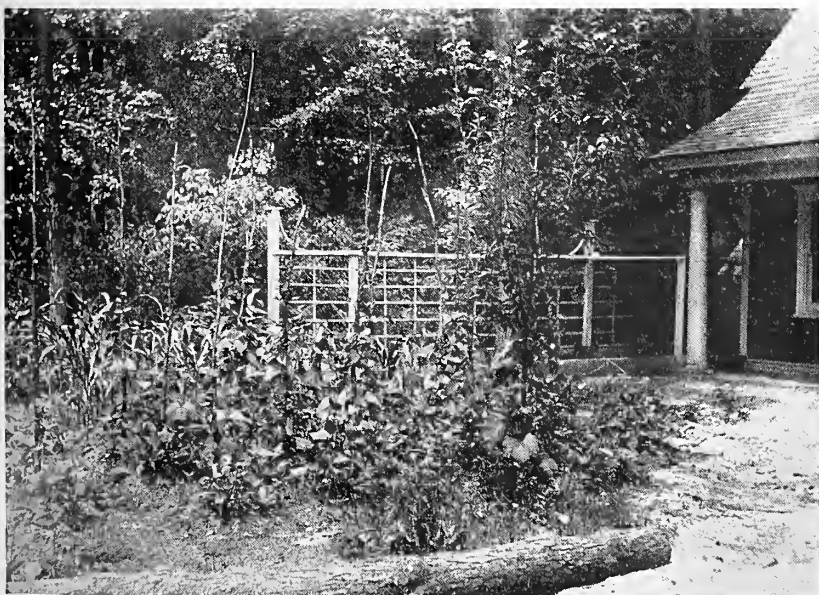


This is the same garden in August, showing the thirty-seven hills of limas hiding the 8 feet of corn. A corner of the farm is also visible

little ones)—and devoted a good many more rows to the standard vegetables, sowing seeds an inch or more apart in the rows and thinning to four inches for "greens." Our strawberry bed, after the fruiting season in the previous June and July, had put forth such a vast quantity of runners that it was hopeless to try to use the wheel-hoe on it, and I had no time for hand weeding. So I let it go its way, keeping down the weeds and grass with a sickle, besides one or two hand weedings, until the sets had rooted firmly and the runners had turned black, indicating that the parent plant was through furnishing sap to the young sets. Then, in mid-October, I dug up the whole bed, separated the sets and old plants from the weed and grass roots that came up with them, and I then had more than five hundred strawberry plants, including the original hundred. I cleared the whole East Garden for them, set 400 on $1\frac{1}{2} \times 1\frac{1}{2}$ -foot spacing, and had 100 left to give away. They should be set square and not "staggered," so as to give the wheel hoe a clear run, both across the bed and up and down it.

This made it necessary to find a new place for the tomatoes, so I established a yard of thirty-two plants across the main path, taking 15×25 feet of garden space. Next to them I arranged for five rows of beets (125 feet), taking 9×25 feet of garden space, and, beyond the hot frame, three of turnips and three of spinach. The old bean arch ground back of this frame was now exceedingly rich soil, not only from the well-known nitrogen-producing qualities of beans, but from the

(Continued on page 372)



The west garden on June 1, showing pole beans and corn. Later the ends of the poles were lashed together to make arches

The Maintenance of Electric Cars in the Country

THE GARAGE AND THE GENERATING PLANT—USING DIRECT CURRENT FOR CHARGING—AUTOMATIC CONTROL OF CURRENT—NECESSITY FOR PROPER LUBRICATION—ADJUSTING THE BRAKE MECHANISM

JOHN R. EUSTIS

WHEN the assertion is made that it is a very simple matter to operate and maintain an electric vehicle, either pleasure car or motor truck, it is made in a comparative sense, because the electric vehicle is a piece of mechanical apparatus, and as such requires a certain amount of skilled attention for its successful use. The degree of skill and care required, however, is less than in the case of other mechanically propelled vehicles, such as the gasoline or steam automobile.

The maintenance of an electric vehicle is much more of a problem than its operation. In cities and towns, where often the housing, and nearly always the battery charging, are done at a public garage, the matter of maintenance is attended to by the skilled mechanics and electricians employed there. The same holds true in the private garages, where a fleet of electric motor trucks is housed by its owner.

It is different, however, on the country estate or farm, where seldom more than three, and usually but one electric vehicle is used. In such cases public garages, equipped to charge and care for electric vehicles, are not usually convenient, and the owner or driver must have the requisite knowledge and ability to attend to them.

When an electric vehicle is to be used in the country the first matter that comes up for consideration is that of its housing. It can be kept in any barn, stable or other building where it is protected from the weather. Its presence does not constitute a fire hazard and consequently does not affect the insurance; neither is there any danger in cold weather from freezing, as there is nothing to freeze except the solution in the batteries, and this is immune when the battery is partly or wholly charged.

The amount of money invested in an electric vehicle, however, and the importance of securing a maximum efficiency out of its use, fully warrant the construction of a special building or garage for its housing. The same building will contain the apparatus for charging the battery, a small work bench, storage room for extra parts, and, perhaps, the plant for generating the current for charging the batteries. Such a plant is, of course, not needed where current is already available for lighting and power purposes, as is generally the case nowadays on the country estate and farm. Where it is necessary to install such a generating plant, in order to make possible the use of an electric vehicle, the current generated may also be used for lighting and other power purposes.

There are a number of satisfactory types and styles of small garage buildings where one or several electric vehicles can be housed. Stone, brick or concrete construction is preferable for the same reasons as would apply to any other buildings. Frame construction is, however, entirely suitable. For the sake of cleanliness a concrete floor is desirable, and this feature means much to the life of the rubber tires of the vehicle. The garage should not be so small that there is not ample room to work all around the vehicle or vehicles stored in it.

The matter of the charging of the battery comes next in order. Only direct current may be used for this purpose. Where such current is available of a voltage near to the maximum required for the charge, the only apparatus necessary is a rheostat regulating resistance, placed in series with the battery and a voltmeter. When direct current is available, but at a voltage far above or below that required for charging the battery, a motor generator

set must be employed. When alternating current only is to be had, then apparatus must be used to convert this to direct current. There are three types of such apparatus—the mercury arc rectifier, the synchronous or rotary converter, and the motor generator set. One of the more recent developments in battery charging apparatus is an automatic arrangement whereby the charging is automatically controlled and automatically cut off when the battery is fully charged. With this device it is only necessary to run the vehicle into its garage at the end of the day's work, connect the battery to the charging board, turn on the current, and forget about it until the following day or later. Then it will be found with the battery fully charged and the current cut off.

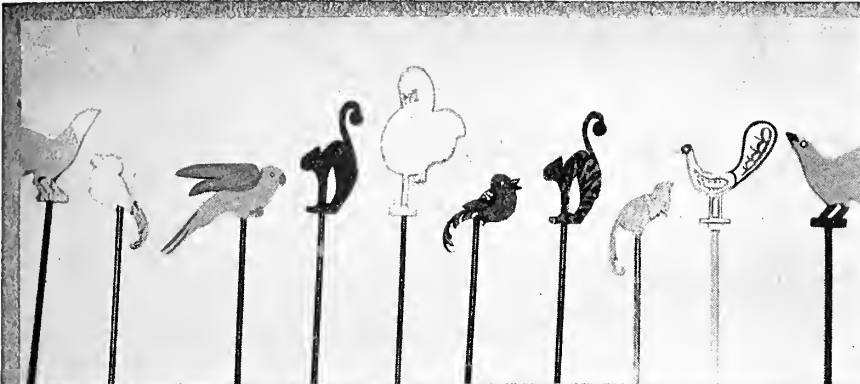
The necessary information for charging and caring for batteries is contained in the instruction books furnished by the manufacturers. The important points are that the battery should never be completely discharged, or charged at too high a rate. The solution should not be allowed to get lower than the top of the plates in the battery or the sediment which collects in the bottom of the jars get higher than the bottom of the plates. Cells, plates and all connections should be kept clean.

In the maintenance of the general mechanism of an electric vehicle, lubrication and adjustment, with the replacement of worn or broken parts, are the important requirements. Lubrication requires the most attention, and it is better to err on the side of too much than too little, and to give in small amounts often, rather than in large quantities at infrequent intervals. Vehicles of all types are provided with means of lubrication, depending upon the character of the contact surfaces. Among these may be mentioned oil cups, grease cups, grease boots, oiled bearings, and grease-packed bearings. Wheel bearings are packed with grease, while the treatment for the controller consists of wiping the copper contact points with a clean rag and a small quantity of vaseline. The oils and grease used should be of good quality and free from acid and grit. If dirt works into any of the bearings it should be washed out thoroughly with gasoline or kerosene, and repacked with good grease.

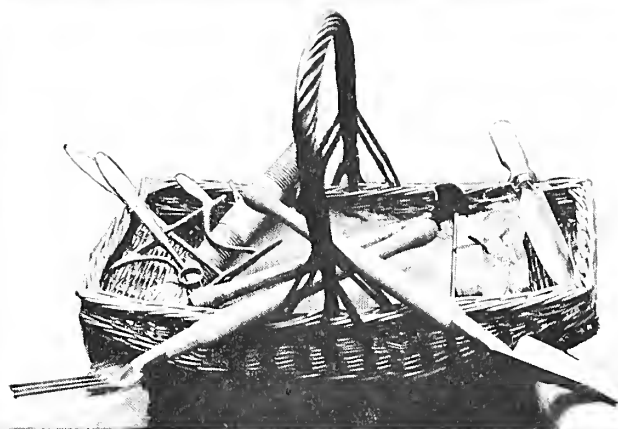
Adjustments are required from time to time, such as tightening nuts, screws, chains, brakes, etc., and may readily be made after an inspection of the mechanism, and with the aid of the instruction book supplied by the manufacturer. In normal service these minor adjustments are generally sufficient, except for the yearly overhauling, which should be done by a competent mechanic. The object of the yearly overhauling is for the renewal of such parts as may be necessary, such as chains, sprockets, gears, bearings, etc., and for the rigid inspection of parts which may be badly worn, the replacement of which will reduce the possibility of a breakdown, while working, to a minimum.

Oil cups and grease cups are provided at such points in the springs as are necessary to reduce friction, and a small quantity of oil should be applied, or the grease cups given a turn daily. This will prevent bolts and bushings from grinding and wearing out rapidly. The spring clips should also be tightened, so that the spring rests firmly upon its seat without play. Squeaking or grinding sounds are caused by friction between the leaves of the springs and may be eliminated by lubricating such surfaces. In prying the leaves apart for this purpose care should be taken not to damage the leaf-points.

(Continued on page 371)



Flower stakes topped with gaily-colored birds and beasts give a touch of color to the garden

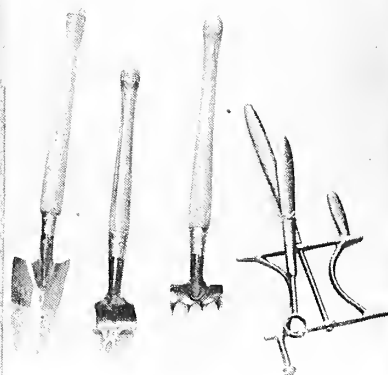


A basket for vegetables will save trouble and steps

Garden Accessories

THE average window gardener either leaves the earth in the boxes and pots undisturbed for want of a good digging implement, or utilizes a paper cutter, a pair of scissors or a knife that might much better be left to perform its own special functions. A very useful combination trowel and rake is now made of heavy brass, the whole implement being about eight inches long, with rake teeth at one end and trowel at the other. This ingenious little implement, invented by a woman gardener, makes a most attractive and useful gift. Where window boxes are used at all windows, one of these little implements might be provided for each room.

The unromantic gardener often scoffs at the use of the new sticks with gay birdies atop which the up-to-date gardener uses to support roses and other plants that need tying up. But the scoffer is silenced when he sees the latest productions from the wooden aviary. The little birds that adorn the tops of these
(Cont. on p.378)



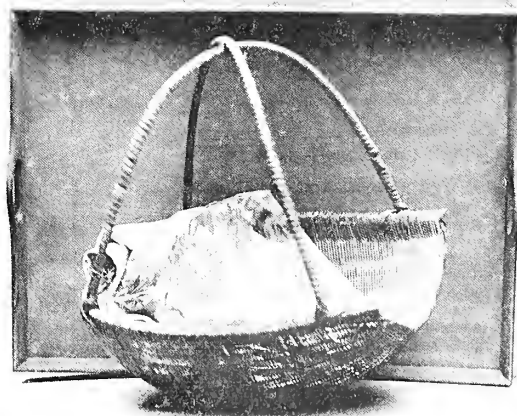
For close work these tools are invaluable; note the long, sturdy handles. The implement on the right is a reel



A wishing ball crowning an ivy pillar will prove an attractive addition

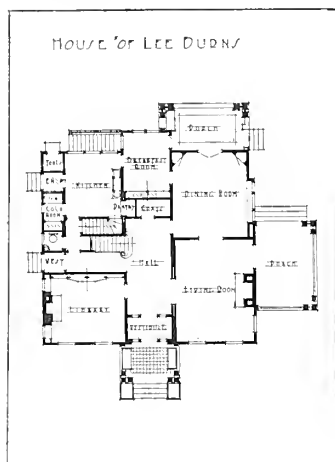


No garden is complete without a bird bath. Such a pan set out on the lawn will be well patronized



The flower basket is indispensable for the woman gardener or a flower tray on which to lay the more tender blossoms

The kneeling basket will prove useful, especially to women gardeners; it saves both knees and skirts, and being practically waterproof prevents dampness from slipping into the bones

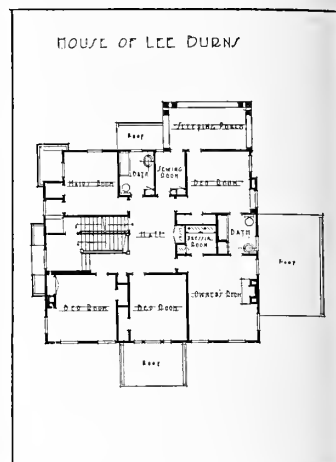


A breakfast room off the dining-room at the rear of the house is one of the attractive features of the first floor

THE HOME OF LEE BURNS INDIANAPOLIS, IND.



The master's suite on the second floor takes in the depth of the house, and includes a sleeping porch



An adapted Colonial style of architecture was followed, and both the house and grounds were fully planned before work commenced

Herbert Foltz, architect

IN the early part of 1913 the site of this house was a level piece of meadow land, unrelieved in any way. The problem presented was to build on it not only a house, but a home, comfortable, inviting and one that would grow more attractive with age.

A form of the Colonial style was chosen, and not only the house, but the landscape gardening was carefully planned before a sod was turned. The result has been most successful. While it is too soon for the planting to have reached its greatest effectiveness, even now it forms an attractive setting for the house itself.

The ground has been graded so as to slope in all directions from the house, giving it the effect of being on a low hill. Back of the house the ground slopes across the gardens to the tennis court, beyond which, as a background for the view, is a most in-

teresting fence, suggested by a quaint drawing of Kate Greenway's. In front of this is a border of hollyhocks, larkspur, columbines and other hardy flowers.

Care was taken to keep the scheme of planting simple and harmonious, preference being given in a large measure to the native Indiana trees, such as sugar maple, elm and hawthorne, while evergreens were massed in the corners of the yard. The lines of the house are softened by shrubbery, honeysuckle and ivy, and thought has been given to securing a good view from every room. Flowers were chosen for a succession of bloom and masses of shrubbery were placed with a view to their beauty in winter, as well as summer.

The house itself is of simple composition, old motives being used with a certain freedom that, while preserving the essential balance of design, permits a picturesque note that is most



In the dining-room the floors are dark oak, the paper a putty gray, and the hangings are of figured linen in neutral shades of gray, blue and rose



Fumed oak has been used in the library woodwork, the furniture designed to match. The arrangement of shelves makes it an eminently usable room

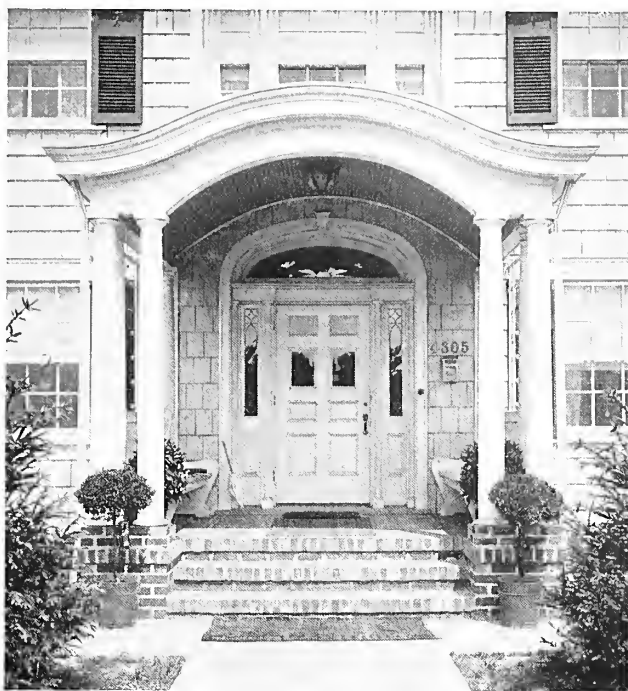
attractive. The exterior is covered with wide, hand-rived cypress shingles, stained a soft white, while the roof and window shutters, each of which is decorated with a little pine tree cut in the upper panel, are moss green, tying the house in color to the shrubbery at its base. The shadows of the porches and of the heavy cornice, contrasted with the delicate tracery of the lattice-work, are interesting.

In the interior the finish of the main rooms on the first floor is the soft brown of the Adam period mahogany, except in the library, which is in fumed oak, the library furniture having been designed and finished to match the woodwork. In the oak of the library mantle is carved the line by Robert Burns: "It's gude to be merry and wise."

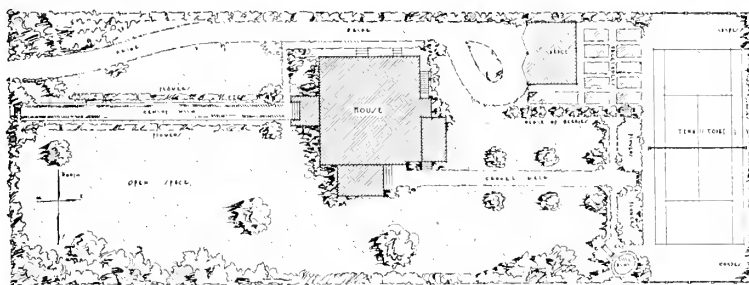
The floors are dark oak, the doors are of an old-time design with brass thumb latches, while the fireplaces, the graceful corner china closets in the dining-room and the wide stair, with its dark hand-rail and white spindles, are details that make a pleasing picture from every viewpoint.

Instead of using different wall coverings in different rooms, the walls of the entire house are covered with a paper, a warm putty gray in tone that makes an affective background for pictures, furniture and hangings, and gives an unbroken color scheme when seen from any direction. The draperies are of figured linen in neutral shades of gray, blue and rose color.

On the second floor the woodwork throughout is ivory enamel, except the doors, which are dark mahogany. An interesting feature of the house is the built-in closets and cupboards, each specially designed for its particular use. In the sewing-room is built a folding work-table and a cabinet with drawers and clothes-rods, while in the bed-room



The exterior is covered with hand-rived cypress shingles stained a soft white. The shutters are moss green



closets are drawers, hat boxes, shoe shelves, etc.

This house is of moderate size, requiring but few servants, yet care has been given to insure their comfort. In the basement is a shower bath for their use and a large living-room with a cheerful fireplace.

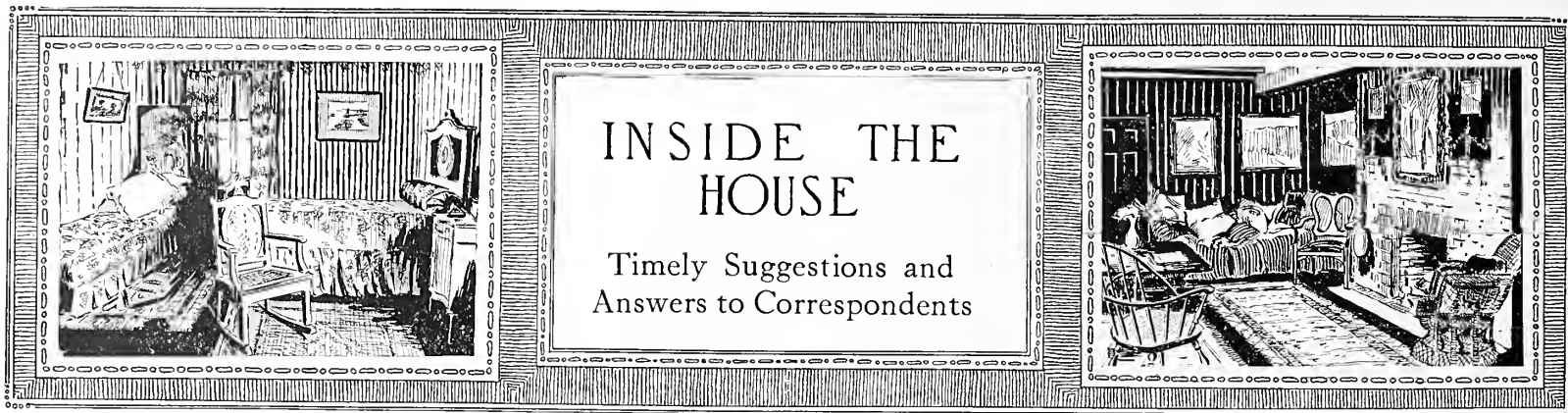
Although built along old-time lines, using motives and ideas that have survived for generations because of their beauty and serviceability, the house is in many ways very modern. Filtered rainwater, automatically heated by gas, is piped to every bathroom; the heating plant is controlled by thermostats that keep a uniform temperature; vacuum-cleaner pipes are installed and telephones are at convenient locations on each floor. A built-in refrigerator, iced from the outside, a room at grade where the lawn mower and other garden tools can be conveniently stored, and a water spray for the ashes in the furnace room, are some of the features that make the house more livable.

Although Colonial architecture makes little or no provision for porches, the style has been adopted in this house in such a manner that the generous veranda accommodations in the front, back and sides do not destroy the general architectural lines. The front veranda is an

elaboration of the old-fashioned settle-lined stoop. Roofed in, and with lattices on the sides, eventually to be covered with vines, it makes an inviting entrance and a place where the family can gather with a certain degree of privacy. The floor is Colonial brick laid with a wide bonding, which adds perceptibly to its decorative value. The side porch looks over the east lawn toward the tennis court. A service porch is in the rear; above it being another porch which may be used for open-air sleeping.



Save in the doors, which are dark mahogany, the woodwork of the second floor is ivory enamel, giving to the bedrooms a cheery airiness



This is for the Kitchen

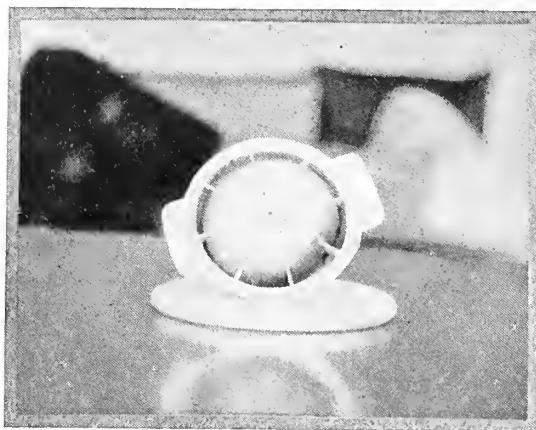
THERE have been a thousand and one accessories for the preparation of the various kinds of fruit—cherry-stoning machines, raisin seeders, apple corers, pineapple shredders, strawberry hullers, etc.—but the difficult problem of serving apples *au naturel* is satisfactorily solved for all time by a knife which, with one motion, cuts the apple into quarters and at the same time removes the core. The skin has to be peeled off, and the fruit is ready to be eaten in its most delicious form. A circular cutting board of hardwood accompanies the cutter, which is of good quality of steel and very durable.

Small Decorative Objects

IN obscure cottages of the Old World are to be found articles of furniture that the peasants themselves may have decorated. The best of these are simple and have great charm because they are a part of the life that created them. In the quiet of their daily life the peasants' artistic feeling frequently expressed itself in household decoration. Many of such designs or parts of them are the inspiration leading to a charming modern scheme of decoration.

The studio of one woman decorator of New York is full of ordinary household objects made of wood or tin which are abloom with common garden flowers, such as flourish nowhere so well as in the fer-

tile soil of the artist's imagining. From tea trays to flower boxes and lamps her art changes the merely useful thing into an object of beauty as well as utility. Most of the old-time flowers blooming in this modern art shop are of the peasant character, though on some places are the



This new apple knife cuts the fruit into sections, at the same time removing the core

daintier garlands and some fair ladies who show traces of French high life.

The tea screen, which is of the latter type, guards the teapot from the too caressing summer wind when the refreshing cup is served on the porch or under the trees on the lawn. The graceful, courtly dames, with which the screen is decorated, reflect that world which children suppose to be peopled by beings who

live on cake and do nothing more laborious than play with wreaths of flowers. Bird-egg blue is the soft background for the painting, which cleverly conceals the fact that the screen itself is merely tin, for the decoration and background deftly suggest that it might be enameled.

Similar wreaths on a black lacquered surface decorate the oblong tray. Yes, similar in a general way but not alike, for individuality characterizes these studio pieces quite as much as originality. Herein lies a valuable asset. No two pieces are exactly alike unless one wishes them so. Often it is desired to have a certain motive of the chintz or cretonne hangings reappear in the tea tray, the screen, or perhaps the cookie box, which will be within call, if not actually lurking somewhere about the tea table. Black lacquer is such an ideal background for either the peasant or the modernist style of decoration that it is employed a great deal, though there is no rule except to make the useful thing beautiful. Needless to add that it is sure to have a personality of its own.

The trays come in many kinds, shapes and sizes. They are small and large; with black lacquer, blue or green; with tiny, stiff posies or with bold, realistic flowers of the present sort. One tray with the latter decoration is of Japanese grass painted yellow, from which the green leaves, flowers and gay birds stand out with impressive definition. It is round and is



The decorated tinware is made up in a variety of shapes—candy boxes, cake and cookie boxes and boxes for trinkets, each with a dainty design painted over black lacquer

Made of decorated black lacquered wood are twin boxes, as well as a holder for crochet cotton, a flower pot box and a little bonbon box shaped like an Easter egg

about fifteen or sixteen inches in diameter.

Shown with the oblong tray is a square waste-paper basket, flaring at the top like the petals of a flower. The decorations are in yellow and green with a touch of blue. In another group is a flower box for window or porch, painted green with vivid contrast only in the oval on the sides. The artistic feeling and thought which are given to this work are evidenced in the flower-box development, where the colors are subdued because of the nearness to Nature's own paint brush. The long, slender spout of the watering pot will insure against splashing surrounding objects, as it will nose deftly among the shoots and branches and send the water only where it should go. It has yellow cowslips on a background. There are large watering pots for the garden and small ones for the little child's special flower bed.

As if they might have stepped out of an 1860 daguerreotype are the hair-powdered, hoop-skirted, painted wooden ladies whose name is Door Stop. A lace-trimmed breakfast cap adorns the chignon of one, another stands demurely still, although her frock is flower-bedecked as if for a ball, and a third wears dignified stripes garlanded with posies. They are like human women, inasmuch as they are after one pattern, and like woman again, in that they are all different.

Here is an instance where a bit of the design of painted furniture, of window hangings or of wallpaper may be repeated in the door stop's dress. Such a little thing that it is, but it does give so large a feeling of unity as if there were a mind that planned and a current of sympathy through all the things of the home.

The simplest electric light stand and the plainest shade, say one of paper, becomes a thing of exquisite beauty thoroughly at home with its surroundings when its color and style are related to its associates. In this studio was a noteworthy lamp striped with pale blue and white, with pink roses scattered over the shade and the lamp. This was a bedroom lamp to be used

where the hangings were of blue and white striped linen dotted with pink roses.

Where is the telephone book? Most everybody has sometimes found it out of place and put it away to have ready for next time. To help obviate this trouble there is the lacquered telephone box, which may be screwed to the side of the desk near



This decorated box for the telephone book can be fastened to the side of the desk. It is large enough to contain two books

the telephone. It has a roomy space for the thick city directory and a thinner division for the suburban directory. Flying white cranes and a group of marsh flowers decorate the front of the box.

The group of small boxes are for various purposes; some are for candy for special occasions, such as Christmas, birthdays and anniversaries. There are twine boxes so pretty that one will always be kept in sight, so the hide-and-seek ball of twine will have no chance to go free. Trinket boxes there are, such as the lovely one with the white cameo-like head on the top. The inveterate wielder of the crochet needle will find an ally in the little holder for the ball of crochet cotton which will keep it from roving into far away corners.

The same originality of ornamentation may be seen in the decoration of every object, and with due regard for its purpose.

Quaint and unusual are the two figures of the man and woman, done in black and white cross-stitch and framed in a narrow black oval. Those are very interesting in a room with black and white wallpaper or hangings.

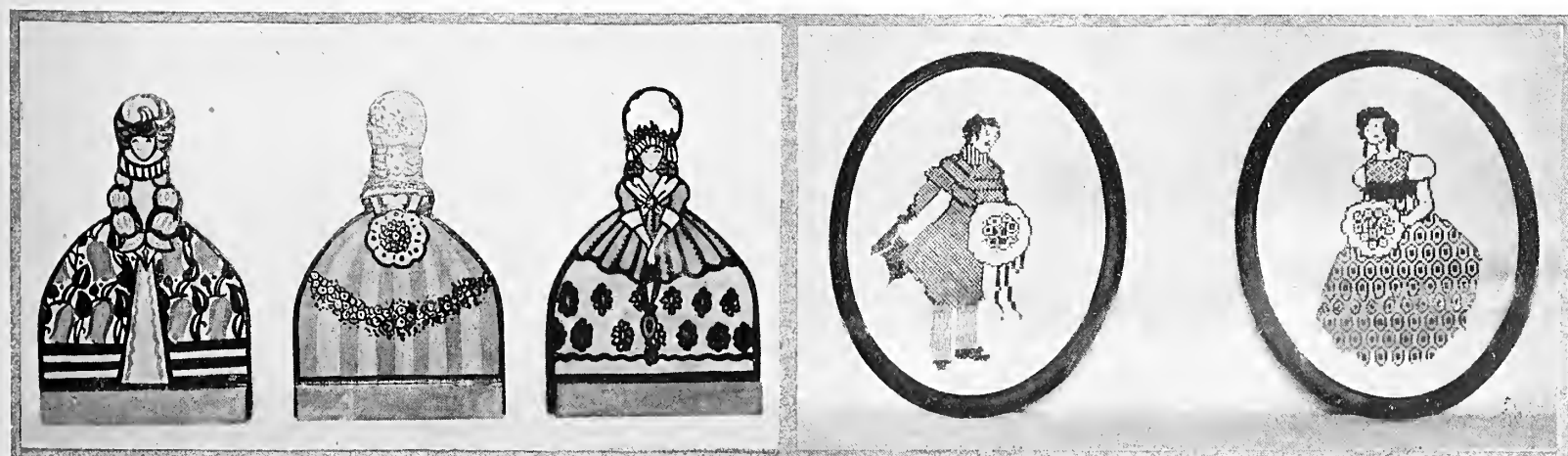
Novel Use for Garden Hose

A GARDEN hose used to rinse heavy articles is very useful. Blankets rinsed in this way are saved from wringing and dry without wrinkles. The nap is uncrushed, too, as no ironing is required. Rugs, scrubbed with a stiff brush moistened in diluted ammonia, when rinsed in this way, look like new.

The Back of the House

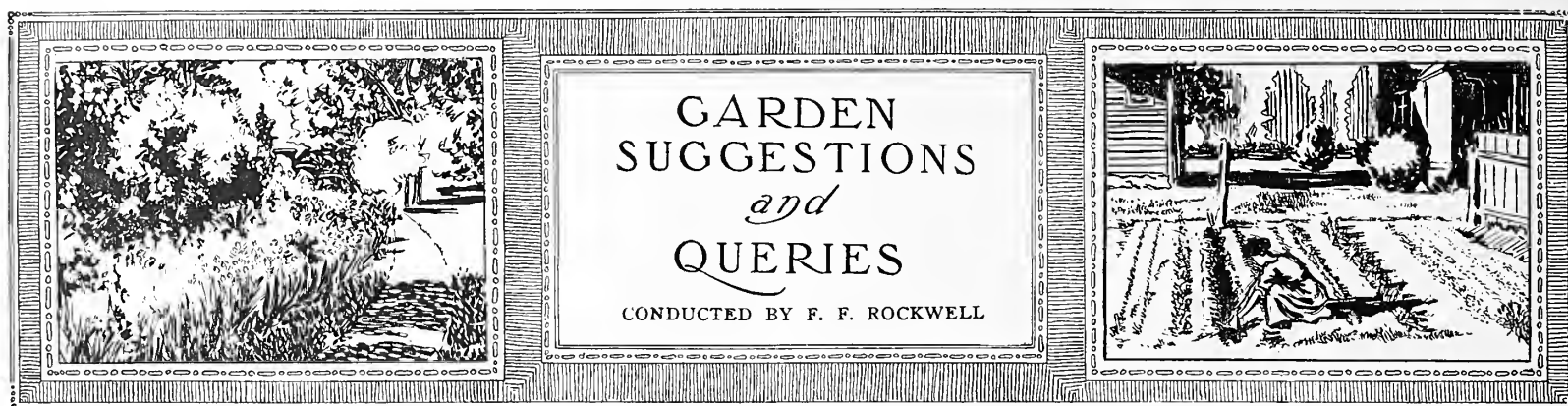
THERE is no place where a housekeeper has a better opportunity to show her good housekeeping than in the appearance of the rear of the house. An unsightly collection of pails and baskets, and, above all, an untidy garbage receptacle, will spoil the appearance of any back-yard, no matter how attractive it may be otherwise.

A good plan is to have a box made large enough to hold the garbage can and any other pails or receptacles it has been found necessary to keep about. The box should have a good hinged cover, but needs no bottom, and should stand directly on the ground. Have some holes bored in each side for ventilation, and over these on the inside tack some wire fly netting. Paint the box the color of the house, and it will be quite unnoticeable and serve to keep the rear of the house neat. If the garbage receptacle is kept clean and covered there can be no odor, and there will be no opportunity for the breeding of the much-detested fly.



They might have stepped out of an 1860 daguerreotype, these hair-powdered, hoop-skirted, painted wooden ladies, whose purpose is to serve as door stops

Quaint and unusual are the pictures done in black and white cross-stitch. They are especially fitting for a room with black and white paper or hangings



Guarding Against Frost

ONE of the first things to keep in mind in fighting frost is that if you can win out against the spring attacks, to a large extent you forestall the losses which might otherwise be caused by an early frost in the fall. Crops started early and successfully protected will have matured and be pretty well cleared up before the danger of the autumn invasion. It pays, therefore, to take every precaution against the loss of tender and half-hardy vegetables—and flowers, too, for that matter—planted in the spring.

The way in which frost acts is not generally understood. The damage is done, not by freezing, but by *thawing*! In freezing the plant cells, which are composed very largely of water, are distended. If thawed out gradually, they are elastic enough to resume their normal size and condition without being ruptured; whereas, if they thaw out suddenly, they collapse; in much the same way that you can expel the air from a blown-up paper bag

slowly without breaking it, while a sudden blow will explode it.

Plants vary greatly in their capacity for withstanding the effects of frost, and consequently are classified as hardy, half-hardy, and tender. The last are those to which even a light "touch" usually proves fatal. But in many cases even the tenderer things, such as tomatoes and beans, will withstand a freezing temperature without being lost.

One of the most important things about frost protection is that the actual temperature, or degree of freezing measured thermally, is only one factor in determining the injury that may be done. Other things influencing the effect a frost may have are: (1) Condition of growth or "hardiness" of the plant; (2) location and growing conditions; (3) the variety and strain; (4) the amount of moisture in the air, and wind and clouds; (5) and the moisture in the soil and in the plant.

It is truly remarkable how a plant may be injured to low temperature, *if* it is done

gradually. Hence the importance of the "hardening off" process in the frames, before setting plants out in the garden. This is one of the methods of frost protection which should always be used, and should be considered as the most important. Location also makes a great difference. Shelter from north and west winds and a slope to the south or southeast are always desirable for extra early stuff. Even a slight variation in altitude may mean the difference between the loss and the safety of a crop. Last fall, after a frost which we had on the 14th of September, the "frost line" was plainly discernible in my field of melons, which was planted on a fairly steep slope. The upper third of the patch was untouched, and the rest was limp and black as soon as the sun touched it. I have often seen the same thing in fields of squash and with corn.

Every gardener of any experience knows that some varieties of peas, beans and sweet corn will stand more cold than others. In planting extra early sorts always plan to select considerable variety.

In deciding whether there is likely to be a frost during the night, which will injure vegetables or flowers, there are several conditions to be taken into consideration. On cloudy and windy nights there is less likelihood of injury from frost because the soil is kept warm by both these conditions. The degree of moisture also is an important factor. As soon as the dew begins to form, a certain amount of dew is "released," and this serves to check any further fall in the temperature. If dew begins to form when the temperature is 42 degrees or higher, there is little danger of a killing frost. A very wet soil, on the other hand, means that frost is more likely, because under such conditions the radiation of heat from the soil is checked.

The available means of protection from frost are several—and a number of them might be used much more widely than they are. One of the least-known I mention first, because it is used comparatively little, although it is very effective and costs nothing where it can be used. I refer to protection by covering with soil. With the hilling attachment or of the wheelhoe or with the horse cultivator for field operations, one can quickly cover such things as peas, dwarf beans and potatoes that are



Under a blanket of ice the plants will be subjected to a bare freezing temperature, and if thawed gradually should suffer no harm

a few days above ground. It often happens that a warm spell will bring things up quickly and cause them to grow rapidly, and then the weather changes and a frost may be expected. Get busy with the wheelhoe! After all danger is over the soil can be worked down around the plants with the fingered or with the pronged hoe, and they will come through nicely. For individual plants and hills of plants, newspapers and empty flower pots can be applied very quickly. In the former case they should be used in several thicknesses—three or four double sheets about each plant. On very windy nights, of course, the newspapers will not do. Inverted flower pots, a handful of moist soil or a small stone put over the holes can be quickly placed and will stay put.

Plant frames and forcers of various kinds may be bought or may be home-made. These are not merely frost protectors, as they serve the additional purpose of furnishing congenial conditions and causing much more rapid growth. Practically all these devices are very effective and with care will last a long time. The only drawback to their universal use is their initial cost. Good home-made protectors may be fashioned from soap or cracker boxes and waterproof muslin or plant cloth, which can be bought for some fifteen cents a yard. In using glass-covered protectors, of course, attention must be paid to the ventilation. In this respect the cloth has the advantage, as ventilation will, to a large extent, take care of itself. Unless you are already well supplied with "forcers" of one kind or another, try to add a few to your garden outfit each year. You will soon find that you have an equipment that will put your garden ahead by weeks, even though you may have been using frames before.

Still another method of frost protection available where an overhead system of frost protection is installed, is by the use of an ice blanket. This may seem paradoxical at first; but in reality it is not. The temperature *inside* of the ice-blanket remains at practically 32 degrees. Such tender things as beans and cucumbers have been saved by this system. The water is started before the temperature gets down to freezing, and should be kept running until the temperature rises above freezing the following morning. The spray must be kept in constant movement, so that it falls on every part of the surface at intervals of a few minutes. The result is that sheet after sheet of ice is formed, each on top of the preceding one, and the field by morning is a solid blanket of ice. There is no weight on the plants, as they are inside a solid casing of ice which supports its own weight.

The ability of plants to recover from a light freezing will depend largely upon how they are brought out of it. The thawing should be as gradual as possible, as already explained. I remember seeing a tomato field a few years ago about half

of which was shaded by a wooded knoll until late in the morning. Otherwise the two parts of the field were alike. After a frosty night the plants on the former part of the field came through all right, and the others were killed back. Watering with cold water will help to take the frost out gradually. If you have any plants touched by frost which you do not feel are hardy enough to take care of themselves, go over them the first thing in the morning with a hose and watering can. The colder the water, the better. Even if it forms a little film of ice over the plants, no harm is done. Then shade them with a cloth frame or a newspaper until the temperature in the shade has got above freezing.

SPRAY ON TIME

Another vitally important job that has to be added to the list of the gardener's operations this month is spraying. Full directions for orchard spraying are given elsewhere in this number, but it is just as important for such vegetables and flowers as are likely to be injured by the attacks of insects or disease of types which must be controlled by spraying, if at all.

Gooseberries and currants are attacked, usually, on the lower leaves first, by the small green currant worm. Use Arsenate of Lead or Paris Green the moment they put in appearance. Use Lime-sulphur for mildew. After the fruit is partly grown, Hellebore should be used, as it washes off readily, before the fruit ripens.

On raspberries, dewberries and blackberries use Lime and Sulphur when the buds swell, and again after picking, if there is any sign of rust.

The surest way of making certain a full potato crop is to spray thoroughly with Bordeaux Mixture once in eight or ten days, until about the middle of August. Where you have a stock solution of the materials this is not a difficult task, as the plants can be gone over with a small compressed air sprayer very quickly. For field operations, of course, a power sprayer is used. During the first few sprayings, when potato bugs may be expected, mix Arsenate of Lead with Bordeaux at the rate of 3 pounds to 50 gallons.

To keep your roses thrifty and healthy, spray them about every ten days with some good combined insecticide and fungicide, such as Bordeaux and Arsenate of Lead. For the rose avis and any other sucking insects, Nicotine and Kerosene Emulsion preparations must be used.

For hollyhocks, where the rust is troublesome, use Bordeaux Mixture during the early part of the season, and Ammonia Copper Carbonate Solution when the buds begin to form, as this leaves no sediment on the foliage.

SETTING OUT NURSERY PLANTS

Most of the spring's planting of such things as are bought in growing condition from the nursery should be done this month. For the cane fruits, raspberries, blackberries and so forth, no particular preparation is required provided the ground is in good condition. Raspberries should be given about eight to ten feet each, and put in rows 4 feet apart, 2 feet apart in the row, or 3 x 3 feet each way. Strong-growing varieties may require a

(Continued on page 379)



It is extremely important to do your spraying at the right time; wait until your trees are in blossom before beginning the second spraying



EDITORIAL



THE DISTAFF SIDE OF THE FARM

THERE have recently been issued by the Department of Agriculture three bulletins touching on the economic, educational and domestic needs of farm women. They are listed as reports Nos. 104, 105 and 106. Those who are interested in the nation's welfare and the welfare of American womanhood cannot afford to miss reading them. The reports are not made by the Government, but by women themselves, and the three small volumes are filled with letters from all sorts and conditions of farm women, constituting perhaps the most vital attack on certain national and domestic evils that has ever been compiled. They are cries more desperate, appeals more moving than have ever come out of war-stricken Belgium or Poland. The Government asked the women to tell their wants. They have told, and the replies are such that the problems they present cannot be shelved along with issues that another generation may or may not solve.

Excerpts from some of the letters are perhaps more telling than would be editorial comment.

"The condition of the farm woman of the South is most deplorable. Her liege lord is availing himself of labor-saving appliances, such as reaper, binder, thresher, riding plow, gas engines, etc.; while the woman's labor-saving help consists of her sewing and her washing machines. The routine work of the Southern farm woman is about as follows: At this time of the year she is up at 5 A. M. preparing the breakfast, often building her own fire; milks the cows, cares for the milk—churns the cream by hand. Puts the house in order, gets the dinner, eats with the family at noon: leaves the house in disorder, goes to the cotton field and picks cotton all the afternoon, often dragging a weight of sixty pounds along the ground. At about sundown she gets to the farmhouse, puts the house in order, washes the dishes left over from the noon meal, prepares the supper—most of the time too tired to eat; gets the children to bed, and falls asleep herself—and so it goes on from day to day. Somehow she finds the time to do the washing and ironing, mending, knitting and darning between times. If she is under forty-five years of age, while all this is going on she is either *enccinte* or she is nursing a baby. The result is she is weak and frail, as a rule. There are a few well-to-do farmers in whose homes we find better conditions, but the above description of conditions applies to negroes, to white tenants, and to the young farmers who are trying to build their homes. Get statistics of the sale of farm implements and the sales of nostrums for the cure of the ills of women and you will ascertain the relative condition of the farmers and their wives in the South. I call your attention to another deplorable fact; the young girls on the farm do outdoor work and are exposed to changes of the weather at times when they ought to be at rest, and carefully guarded as to their health. Often around the age of puberty their health is everlastingly ruined. I have in mind a case: a girl eighteen years old married a farm tenant. She did all the things I have described and was the mother of seven children during the eleven years of her married life. Four of these children are dead. The three living are frail of body and weak of mind. The mother is at this writing crazy as a loon. Do you wonder! In neither branch of her family is there any insanity. Simply killed by work and worry. That's her story."



This is only one sample of like criticism received from every part of the country. The women are overworked. They are allowed little or no money, and are given no opportunities for

making money. The evil is one that can be remedied in three ways: educating the farmers, which is a sentimental and ineffectual method; and giving women the vote. The New York State grange has endorsed woman suffrage and so have the granges in many other States. The New York farmers will have an opportunity to vote on the Woman Suffrage amendment on November 2 of this year. Or, again, you can educate the women as would an excellent society, "The Woman's National Agricultural and Horticultural Association," which meets in New York on May 7, and at which this problem will be discussed.



There are a multitude of subjects considered in these pamphlets, and next in importance to that of the personal needs of the women is the need for cheap money, which would help the farmer's wife help the farmer. Interest on farm loans range from 8 to 12 per cent; the bulk of them being 10 per cent. When the farmer puts his hard-earned savings in the bank he draws 4 per cent interest. When the bank loans him the same money, he must pay from 10 to 12 per cent.

"What I am mostly interested in," writes one farmer, "is for the Government to loan money to farmers on mortgages at 2 per cent, so as to relieve them of the high rate of interest farmers have to pay. To make myself perfectly plain, will use myself as an example, which is similar to thousands of same sort. Was raised on farm and loved farm life above all others. When grown, had nothing to start with. Worked for wages till 31; saved \$1,000. Married, and borrowed \$1,500 from local bank at 12 per cent and bought 42 acres—30 suitable to cultivate—for \$1,500. Spent the \$1,000 for building, fencing, stocking, etc. Hoped, of course, to pay off loan soon, but interest, 12 per cent; State and county tax, 1½ per cent (on whole value); local school tax, ½ per cent every year, must come out before any living for family or principal of debt—over 14 per cent, you see. Can a man support a family and pay for a home for a wife on capital costing 14 per cent? And the women on the farm suffer the hardships of it most. Can't the Government arrange some way for these hard-working young farm home-seekers to get their money at cheaper interest, when they have such good collateral as good farms to make it secure? That much would help the farmer's wives some."

It is a striking comment on economic conditions in America, that Russia, supposedly the most backward country in the world, maintains a system of rural credits and general aid for farmers, etc., that would pale into insignificance the present endeavors of the United States Government. The parcel post has helped the women, better roads have helped them, but they want, and want rightly, Government telephones and Government monies at a low rate of interest. The suffrage vote is growing. The socialist vote is growing. And also is discontent growing. Each year sees a lessening of the farm population of the United States. And the question is whether the Government shall right the evils, or the farm women with the vote force the Government to right them.

Such small space is inadequate to discuss the question of the educational and social needs of farm women—those little delicacies of life that every woman desires both for herself and her children. We can only counsel the reader to get these Government reports, read them carefully and see what conditions really do exist. When one considers that the farm population is the backbone of our nation, it seems paradoxical that so little has been done for the distaff side of the farm, whereas so much has been done for the men and their work. The women have spoken! Will the men speak now?

GRILLES FOR RADIATOR ENCLOSURES

ONE of the most attractive features of the room shown in this photograph, is the absence of the unsightly radiators. These have been wisely hidden in enclosures under the windows; the heat escapes through Grilles set in flush with the wood-work. These Ornamental Grilles have been designed to correspond to the period of decoration shown in other portions of the room. We manufacture these Grilles to meet various orders of decoration, showing about eighty in our catalogue 66A, which we will gladly send you on application.

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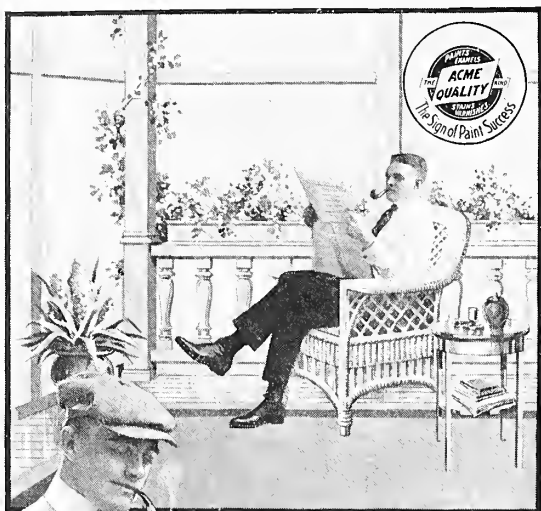
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San Diego

A House for Outdoor Living

(Continued from page 330)

is spread a plot of lawn, into which is set a small concrete pool of water, with a view of the house beyond. This nook is particularly ideal in many ways—its charming combination of colors, the semi-seclusion it affords, the view it commands, and, lastly, its pure, fragrant-scented breezes.

Pergolas are always delightful garden features, from both a utilitarian and a picturesque standpoint, and no Western garden seems quite complete without one. The ones here shown constitute not only a handsome decorative accessory, as well as serving to lure one to interesting garden spots, but also form, with their classic white pillars, a charming architectural link between the house and the grounds. And that, structurally considered, should invariably be the aim.

Beyond the reach of the pergolas lie wilder plots of garden—veritable jungles, in miniature, of trees and shrubbery, wherein the formal scheme plays no part. Here one finds clumps of bamboo, "elephant-ear" plants, and other strange vegetation, and now and then a boulder-bordered pool. Everywhere, in this portion of the grounds, wind sinuous paths of gravel, edged with cobblestones, passing from jungle plots to plots of open lawn. This idea of combining the wild and picturesque with the more stately and dignified—not really formal, however—is especially commendable; and when one considers the wide variety of scenery and garden features it scarcely seems possible that no more than three acres of ground is utilized in the creation of this wonderful little Paradise.

While all of us cannot possess a garden so extensive and beautiful as the one here described—which, by the way, was designed, like the house, by the firm of Myron Hunt & Elmer Grey, architects of Pasadena—we should at least be induced to make the very most of our individual opportunities. Even a tiny plot, perchance located even in the heart of a large city, if converted by oneself into a shrine wherein one may worship Nature a little and enjoy and be benefited by the pure, invigorating air of the outdoors, can become a little Paradise, if one's heart be in the undertaking. At least, I find it so—and I am sure the owner of that stunted geranium on the fire-escape would find it doubly so. His or her case is more or less pathetic, but then it shows an appreciation of Nature's beauty. And it is that which eventually leads one into the open—even "back to the soil" sometimes. Then, too, when the garden is planned it should be designed so as to invite one into it, not merely a spot to be admired through the window pane.

What is Your Trouble?

Do you live in fear of a fire in your home and an insufficient supply of water? During the hot dry months do you have to use your water sparingly in the house? How are you fixed in the stables and garage? Your lawns, flower and vegetable gardens, do they dry up for lack of water? The main question is: How are you fixed for water?

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The Culture of Roses

(Continued from page 333)

hedge and require practically no pruning further than to keep them trimmed into shape. These roses are suitable for training to heavy lateral wires, eight feet or so high. However, roses so trained are often quite bare at the lower part of the canes. This may be corrected by giving each cane, as it grows up, a right angle bend about a foot above the ground before permitting it to grow straight up.

Still another class under the head of miscellaneous and climbing roses is the "Baby" Rambler. This is a comparatively new class and not nearly so well known as it should be. They are remarkable and very desirable for their perpetual flowering ability. They, too, require no pruning beyond cutting out old wood and old flower stems. This variety is excellent for low borders and hedges, growing about two feet high.

The following are good hardy varieties to choose: Baby crimson Rambler, free from insects; white baby Rambler; baby Tausendschön and baby Dorothy Perkins.

The Rugosa or Ramanas roses grow from three to six feet high, have beautiful foliage and, being extremely hardy, fill a place that no other type of roses can. They require no pruning, although the canes may be trimmed back into any desired shape for a more formal hedge. There are light rose and pure white, single forms—Rugosa and R. Alba, respectively. They bloom throughout the season, though not so profusely as the garden sorts. The flowers are followed by large seed pips, which turn brilliant red. There are several double varieties which are still more beautiful. Sir Thomas Lipton, pure white and fragrant; Blanc de Coubert, large, pure white; Conrad F. Meyer, silvery rose; Nova Zembla is a hybrid Rugosa, growing taller, and especially desirable for the shrubby border.

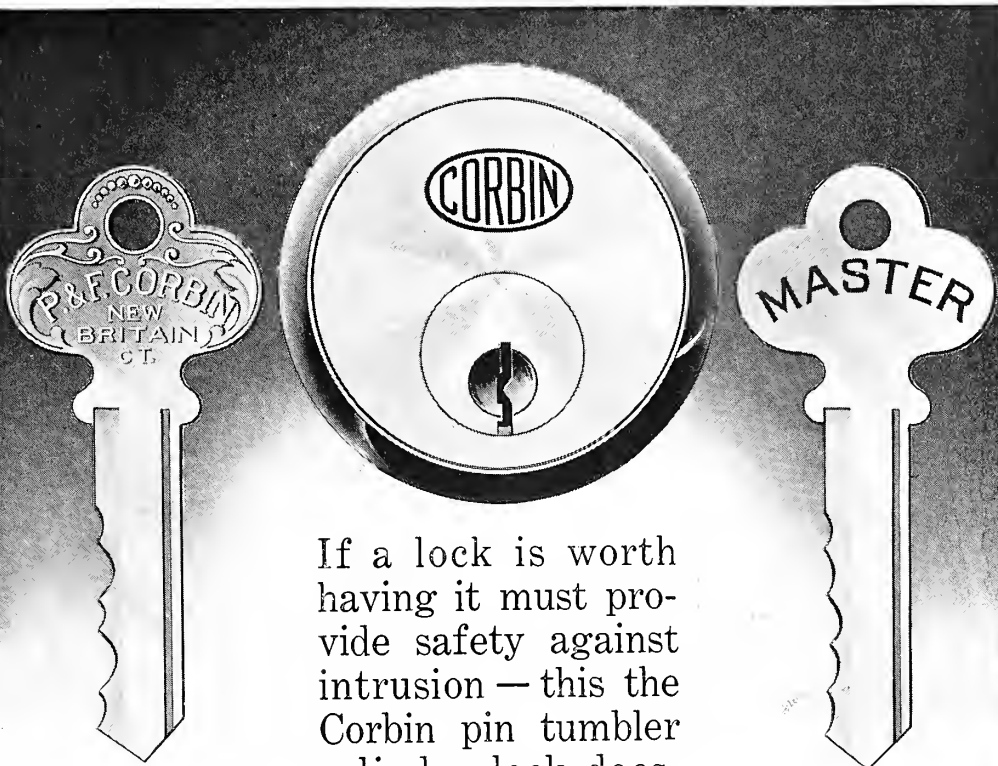
A Good Dog With a Bad Name

(Continued from page 335)

along that dismal road that leads to practical extinction. The bull terrier, therefore, though born and bred in England, has been exiled from his native land and become an American citizen. Canadian dog fanciers have long favored him, and to-day, although there are many in the United States who swear by the "white 'un"; probably they lead us in numbers. Pacific Coast dog lovers, however, are displaying a very lively interest in the bull terrier, and since the days of Edgemoor Peer their dogs have been a factor in show awards and breeding operations. The Far West may become the variety's new center.

So much for the bull terrier's past, present and future. Now for the dog himself. He is a very keen terrier, alive to everything, bright and intelligent. He is, moreover, a very sensitive dog, affectionate and faithful, and, when taken in hand young,

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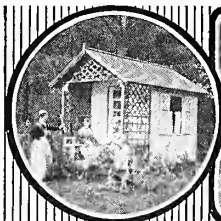
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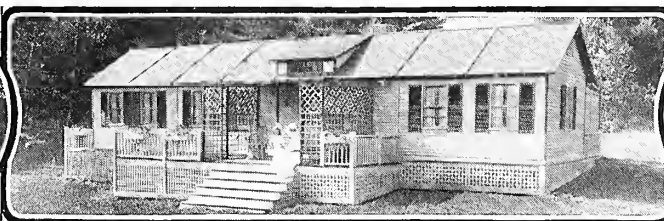
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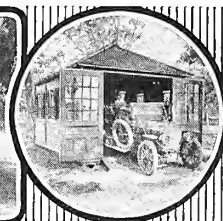
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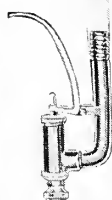
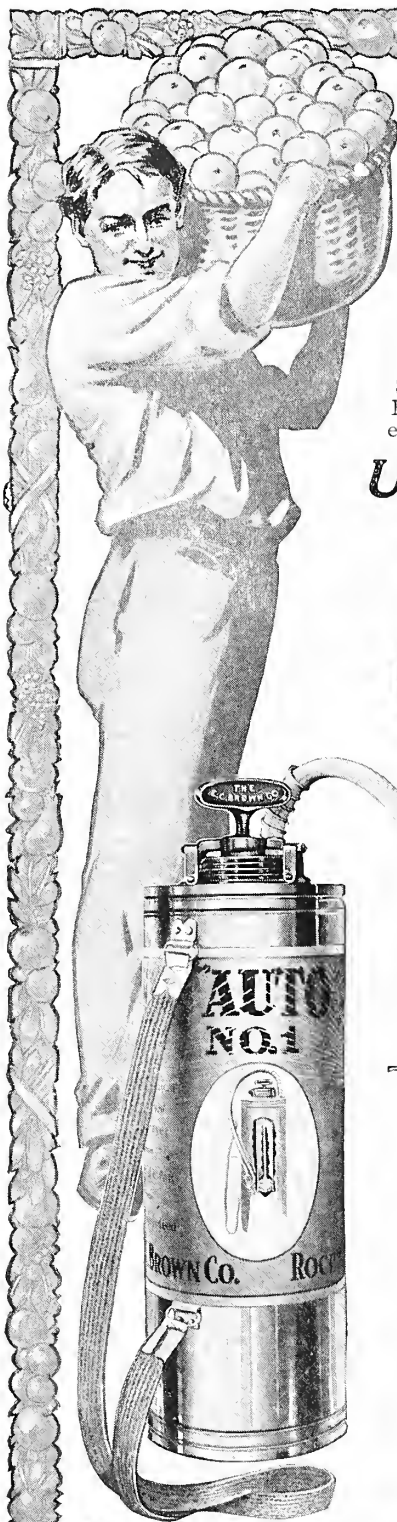
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very docile. He needs, however, careful training, for he has an exuberance of spirits that must be reasonably controlled. On no account can he be convicted of being a vicious or treacherous dog. It is, however, wisest to start one's bull terrier early in the way that you would have him follow. Do not lead him into temptation in the form of a stray cat or a yapping alley mongrel. Be sure that as a youngster he thoroughly learns obedience, but use physical punishment as sparingly as possible. Under the whip he may get stubborn, but a sound scolding, or confinement in a box, or tying up on a short lead will work wonders. The best way is to strive to develop his higher nature, if I may be allowed to use this phrase. He will respond quickly and permanently to such treatment.

In absolute contradiction to all popular opinion, a "white 'un" is a capital dog with children. He is kind and gentle, strong and long-suffering. Moreover, he is the best protector in the world. In this his unsavory reputation is quite an asset, increasing considerably his efficiency as a guard. He is a very faithful dog and jealous of those he loves, fitting him admirably to serve as convoy to the children or escort of their mother. As a night watchman he also shines, and for similar reasons. In the suburbs or the country, then, he comes close to being an ideal family dog. Nobody can deny his attractive personality. His snowy jacket, his trim, clean-cut figure, his aristocratic mien, all stamp him indelibly as the thoroughbred. His smooth coat, too, is a point in his favor, since few Americans fancy a wire-haired dog, and a long coat, despite its beauty, is something of a care, if it is to be kept looking at its best. No one could ever mistake a bull terrier for "just a dog," and every one who knows him well loves him. He is a much more universally popular dog than he gets credit for being, and while he does not make the splurge at the bench shows or in the circles of the out-and-out dog fanciers that some more recently introduced novelties do, still he has a host of true friends all over the country, ever ready to testify that he is a very good dog, in spite of his bad name.

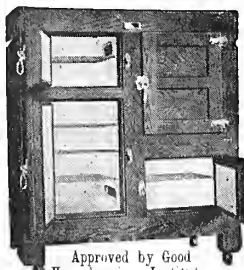
Making a Pool for Fishes and Birds

(Continued from page 339)

I have purposely left flowers out of this garden. Colors would dwarf the scheme; with the exception of the pale Iris—lavender and opalescent—I depend for my effect entirely upon the shades of green, relieved only by the gleaming gold fish in the pond.

The plants which I buy half-grown from the greenhouse are those which quickly make a showing, so I lose little time in getting my effects. The irrigation helps wonderfully in this. Some of the Elephant's Ears in the photograph measured as much as 31 inches by 18 inches, and

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It tells you how to select the home refrigerator—how to keep food longer without spoiling—how to cut down ice bills—how to guard against sickness—doctor's bills.

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It tells you how to select the home refrigerator—how to keep food longer without spoiling—how to cut down ice bills—how to guard against sickness—doctor's bills.

Send at once for **Free Book** about refrigerators

It tells you how to select the home refrigerator—how to keep food longer without spoiling—how to cut down ice bills—how to guard against sickness—doctor's bills.

the other things do as well in proportion.

I have had but little success in water lilies; not that they do not thrive, but my fish eat them. The beautiful browns and greens of the leaves are lovely, but I have never had any blossoms.

But plant life is not the only thing of interest in my garden. The fish have proved most fascinating. Some of my gold fish are nearly nine inches long, while the smallest are not more than two or three inches.

From experience I have learned that while fish kept indoors are unable to stand sudden changes of temperature in the water, those living in the pond can endure almost any extremes of heat or cold. In summer the water in the pond sometimes is so hot as to be almost unbearable to the hand, and again, in the winter, the ice forms several inches thick over them, yet they thrive and increase in size wonderfully. Indeed, it is hard to realize how fast fish grow when kept out of doors. Fish that have changed in size almost imperceptibly in two years in the house will in one summer out of doors almost double their measurements. One fantail from a lead-colored mite two inches long has in two summers in my pond developed into a red-gold beauty nearly five inches long and so fat that she is almost round. The scales become coarsened and less beautiful than the indoor fish, however, but the colors are brilliant.

There is as much difference between individual fish in intelligence and disposition as between different dogs or cats. Some are responsive, coming to feed from my hand, while others are stupid and indifferent, and some remain shy and timid even after years of association.

However, they all seem perfectly fearless of the dogs. They swim in between their feet when the dogs go into the water to drink, and often I have seen them nibble at a dog's nose as the dog stood in the water, the dog merely brushing them away with its paw.

During the winter the fish are kept separate; the big ones are in an old tin bathtub in a cool attic room, while the little ones are scattered about the house. In fact, there is scarcely a room in the house without a globe or an aquarium, where the gold fish give a bit of life and color to the room.

But while they are not much care, I believe that I am quite as glad as they are when the time comes for them to go out in the pond in the spring.

And now, although done in a haphazard fashion, my pond truly is very charming; and please bear in mind that all this is within a short distance of "the loop" in a large city, and that it really took little beside planning to transform a very ugly yard into an adorable spot to loaf away a summer's day.



Neighborhood the Farmer

One of the most significant facts of our telephone progress is that one-fourth of the 9,000,000 telephones in the Bell System are rural.

In the days when the telephone was merely a "city convenience," the farms of the country were so many separated units, far removed from the centers of population, and isolated by distance and lack of facilities for communication.

But, as the telephone reached out beyond cities and towns, it completely transformed farm life. It created new rural neighborhoods here, there and everywhere.

Stretching to the farthest corners of the states, it brought the remotest villages and isolated places into direct contact with the larger communities.

Today, the American farmer enjoys the same facilities for instant, direct

communication as the city dweller. Though distances between farms are reckoned in miles as the crow flies, the telephone brings every one as close as next door. Though it be half a day's journey to the village, the farmer is but a telephone call away.

Aside from its neighborhood value, the telephone keeps the farmer in touch with the city and abreast of the times.

The Bell System has always recognized rural telephone development as an essential factor of Universal Service. It has co-operated with the farmer to achieve this aim.

The result is that the Bell System reaches more places than there are post offices and includes as many rural telephones as there are telephones of all kinds in Great Britain, France and Germany combined.



AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy

One System

Universal Service

For All Kinds of Houses

from bungalows and camps to suburban residences and country mansions, the deep, rich colors of

Cabot's Creosote Stains

are most beautiful and appropriate for the shingles, siding or timbers. The colors are clear and transparent and bring out the beauty of the grain of the wood instead of covering it as paint does. They cost only half as much as paint, can be put on twice as fast, the colors are lasting, and the Creosote "is the best wood preservative known."

You can get Cabot's Stains all over the country. Send for stained wood samples and name of nearest agent.

SAMUEL CABOT, Inc., Manfg. Chemists, 11 Oliver Street, Boston, Mass.



Stained with Cabot's Creosote Stains
W. W. Ward, Architect, Liverpool, N. Y.

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In any Room in the House - On the Piazza

"Grace, I meant to speak of that rug before—it always looks so new, and in the hall it stands the hardest wear too."
"Yes, that's a CREX—we use them throughout the house—they're attractive, good wearing, light and clean and are really one of our best household investments."



"CREX IN THE HOME"

is the title of a beautiful 32 page booklet devoted exclusively to floor coverings. It's a work of art and should delight every woman interested in economical, sanitary and artistic home furnishings. It illustrates and describes the material and manufacture of the famous CREX grass floor coverings, and reproduces ten actual photographs of interiors showing the pleasing effect of CREX on all floors of a home. Then there are life-like color prints of the complete CREX line for 1915. No matter what floor needs a new covering, this booklet will help you make proper selection. A copy is yours for the asking. Write for it to-day.

Before buying see that the word CREX is woven (almost invisibly) on the side binding of all rugs

CREX CARPET COMPANY, 1133 Broadway, NEW YORK

Originators of Wire-Grass Floor Coverings.

Gardening on Schedule

(Continued from page 343)

a second planting at the side of the hill, to replace the earlier planting if killed by cold. Plant beans, more lettuce. Plant muskmelon, to be followed by a second planting in a few days. Thin turnips, beets, carrots to 4 or 5 inches, 4½ inches and 3½ inches, respectively.

Venture a few early tomato plants in the open ground. If frost does not kill them they will bear late in June.

Cultivate garden.

Second Week.—Plant muskmelon, set tomato plants, plant lima beans. Toward the end of the week plant pumpkins, watermelons and set egg plants and pepper plants. Cultivate garden.

Third Week.—The cultivation of the soil is now going on regularly. The garden soil is each week stirred to quite a depth. Three hours a week will accomplish this. Some time will be required to fight such insect pests as may now appear, as the squash beetle, which will destroy the young squash, cucumber and melon vines. Dusting the plants with land plaster will check them. Some time will be needed for gathering vegetables.

Fourth Week.—From the 21st of May until June 1, okra; vine squash for fall use may be planted, late cabbage plants may be set, also sweet potato plants.

Early white turnips, early peas, lettuce, spinach are now ready to be gathered.

By allowing a half hour each morning for cultivation and the remaining time for gathering vegetables, the cook can be better accommodated and the products fresher than if either kind of work is done to a finish before the other is begun.

JUNE

Potato bugs arrive at this time. The plants should be dusted with plaster containing Paris Green or sprayed with a liquid spray containing Paris Green once in ten days.

Cultivate the garden regularly each week.

Peas, crookneck squash, turnips, carrots, beets, lettuce, radishes, young onions and cabbage are now ready for use.

Crab grass begins its growth and cultivation must be thorough, but of medium depth between rows and more shallow close to the plants throughout this month.

The round potatoes should not be deeply hoed after the blossoms open.

By the last of June do not cut into the soil about the tomatoes and cucumbers.

Peas, radishes, beans, sweet corn and lettuce may be again planted this month, and late tomato plants should be set about the 15th of the month.

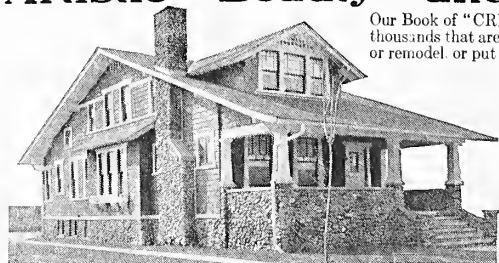
JULY

Tomatoes, cucumbers, beans, cauliflower, sweet corn are added to the list of garden products this month.

Replant all spaces left from vegetables used.

Cultivate regularly to hold a soil mulch.

Artistic Beauty and Building Economy



Architect, Harvey Abrames, Norfolk, Va. "CREO-DIPT" Stained Shingles on roof and side walls in two different color tones. "CREO-DIPT" Stained Shingles are used from Maine to Florida, and as far west as Denver. By our special process shingles are preserved all the way through and earth pigment stains that never fade out in streaks are used.

Our Book of "CREO-DIPT" Homes shows a selection of over one hundred houses out of thousands that are today covered with "CREO-DIPT" Stained Shingles. Whether you build, or remodel, or put on a new roof, be sure you investigate the economical and artistic values of

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17 Grades. 16, 18, 24-inch. 30 Different Colors
They come in bundles ready to lay without waste.

We use only selected cedar shingles and preserve them in creosote and stain any color desired. No wedge-shaped shingles—no waste. Best earth pigments—no aniline dyes. Save expense, time and muss of staining on the job. Our special process preserves them against curling up, rotting out or pulling off in wind and storm.

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STANDARD STAINED SHINGLE CO.
1012 Oliver Street No. Tonawanda, N. Y.
(Shipments prompt. Branch Factory in Chicago for Western Trade)

AUGUST

Melons, egg plant, lima beans, sweet potatoes and marrow squash require to be gathered this month. Lettuce, peas, beans, winter turnips are planted about the 12th or 15th of the month for fall use.

The one hour a day gives time for gathering and planting of these vegetables and clearing away of vegetable remains and seeding with clover or rye any vacant spaces.

SEPTEMBER

The only cultivation now necessary is about the vegetables for fall use. In addition to this the work of removing vegetable debris continues, and the hour each morning gives ample time for this and re-planting with rye.

Landscape Gardening on a Small Place

(Continued from page 346)

The west path is informal, passing through massings of shrubbery which stretch their branches over it. Interspersed with the shrubs, to brighten them with color spots and fill in bare spaces, are patches of low and creeping flowers which grow over the rough stone edging of the patch. Occasionally the shrub mass is broken, not enough to break its continuity but enough to give views of the lawn through the gaps. Such paths, full of interest in growing and blooming things, are ways of making the grounds seem larger. There is no attempt at deception or optical delusion. The result is gained simply by engrossing one's interest in every step of the patch, so that one lingers longer upon it. A curved path has a special interest of gradually unfolding its varied pictures to the beholder as he passes along. It is for this reason that a curved path can have bordering it a great diversity of plant material, since it is impossible to take a sweeping glance along the whole path. In such a path border one plant in bloom counts for a great deal more than if it bloomed as an isolated specimen. It has the foliage of surrounding plants as a foil.

In order to keep such a path continually interesting, the shrubs must be so distributed that there is always something in bloom, not merely in one part of the path, but along its entire length. These blooming effects are gained by planting in each group—for a border in plan is divided into arbitrary groups not visible in the planting—two or three kinds of shrubs which bloom at different times. For instance, there are grouped together *Berberis thunbergii* and *Clethra alnifolia* with early spring and late summer bloom; *Spiraea* Anthony Waterer and *Hypericum aureum* with two different summer periods of bloom; *Kerria* and *Symphoricarpos racemosus*, the snowberry, with two blooming periods and the effectiveness of the white snowberry in autumn and the brilliance of green *Kerria* stems in winter time. In the



"It's the Long Mileage—"



Zig-Zag
Tread



Motorists gladly pay the prices

IT'S THE LONG MILEAGE IN LEE Pneumatic Tires that makes them worth the higher prices cheerfully paid for them—the mileage and the guaranteed freedom from Puncture and Blow-out. Details of splendid materials and costly hand workmanship in new booklet "V."

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will add to the attractiveness of your home. They make a permanent and artistic roof with either a Red or Green color. Suitable for Mansion, Cottage or Bungalow.

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MOTT'S PLUMBING

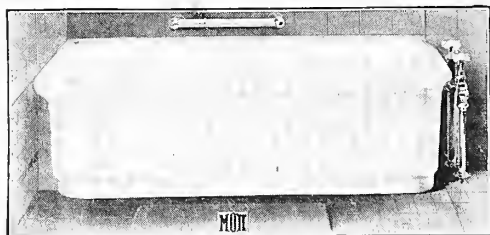
FIRST COSTS versus TOTAL EXPENSE

YOU probably plan to live in the house you build. Naturally you will wish to keep down expenses in the years to come.

A well designed bathroom with carefully selected equipment not only gives immediate comfort—but adds to the future value of your property by savings in repairs through years of constant service.

Mott's plumbing is one of the safest "long-term" investments you can put into a house.

If you are planning to build or remodel, write for "Mott's Bathroom Book." It pictures and describes Mott's New *Light Weight Porcelain Bath* which weighs and costs little more than Enamelled Iron. Sent on receipt of four cents to cover postage.



THE J. L. MOTT IRON WORKS

1828 Eighty-seven years of Supremacy 1915

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†Philadelphia . . . 1006 Filbert St.

Cleveland . . . E. 9th St. & Euclid Ave.
Seattle . . . 4th Ave & Union St.
†Detroit . . . 45 Fort St. W.
Atlanta . . . 7 Peachtree St.
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†Montreal, Can. . . 134 Bleury St.

same way *Cornus alba* and *Berberis vulgaris* are planted together. The barberry has its greenish-yellow flower in April, the *cornus* small, flat clusters of white flowers in June. In autumn the white *cornus* berries make a contrast with the red fruit of the barberry and in winter the *Cornus alba* stems are brilliant with color. Again, *Stephanandra* and Regel's privet are planted together, and bloom in May and July. They have an interesting winter effectiveness, for the *Stephanandra* stems are orange-colored and the privet has persistent black fruit. *Philadelphus microphyllus* and *Spiraea* Anthony Waterer are grouped together. The foliage delicacy and the small white May and June flowers of the *Philadelphus microphyllus* are quite choice in effect in comparison with the July bloom of the *Spiraea* Anthony Waterer, which is strong in color. This change gives two distinctly different effects to the same spot.

In such careful shrub massing the shrubs are always used in small groups, sometimes only one plant of a kind, sometimes five or six plants are used together.

Through this kind of grouping there is always something new and interesting, always something different on the path to attract attention, through the whole cycle of seasons, which makes this home walk a new little garden adventure every time we pass along it.

While the attention given to seasonal effects makes this path of continual interest, it is the consideration given to the foliage effect and to shrub habit which binds the shrubs together into a unified and harmonious border.

This same effect is created in the enclosure of the lawn, of which the borders of the west path form a part.

Big and striking effects desired in the planting of large areas are thus avoided. The informal and intimate character of this planting is especially suited to a small suburban place.

The Seashore Garden

(Continued from page 347)

average home does not look in accord, and if "weeds are plants out of place," what sort of misfit should such misjudgment be termed as the use of pincushion planting of privet, oddities of all sorts dotted promiscuously? Study native growths and see how Nature gets her charming effects when unhindered by man.

The native pitch pines are almost delightful and should be cherished wherever possible, but to transplant is indeed, and alas! another matter. Even nursery-grown trees only survived for me six out of twenty in one instance, and less in another! Scotch pines may help you, but if white pine is desired, you must be sure you protect it from every direction—if you are close to the shore and open to wind.

Seashore grass seed with its different kind of roots, and white clover, with

Roses, Flowering Shrubs and Fruit Trees

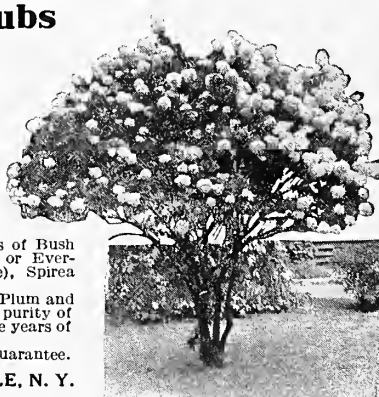
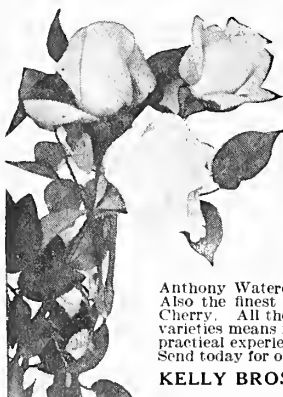
which will bud, bloom and fruit True to Name, sent direct from our Nurseries to your garden at wholesale prices.

This Spring we offer the finest selection of hardy, field-borne Hybrid Perpetual and Hybrid Tea or Everblooming Roses. Our list includes the choicest varieties: Maman Cochet (white) Maman Cochet (pink), William R. Smith, American Beauty and Killarney. The stock is all two year old, No. 1 strong bushes. Our book tells you how to plant and care for them.

Our Flowering Shrubs include the finest specimens of Bush Hydrangea, Panicleata Grandiflora and Snowball or Everblooming Hydrangea, Spiraea Van Houttei (white), Spiraea Anthony Waterer (dwarf pink).

Also the finest fruit trees that can be grown, Apple, Peach, Pear, Plum and Cherry. All the best tested varieties. Kelly Brothers' quality and purity of varieties means much to the planter. You get the benefit of thirty-five years of practical experience. We stand back of every shipment. Send today for our 1915 Spring Catalog. It is free. Read our broad guarantee.

KELLY BROS., Wholesale Nurseries, 340 Main Street, DANVILLE, N. Y.
You never regret planting Kelly Bros.' stock.



manure as a winter covering and bonemeal in the spring, have redeemed our desert; also watering during the dry season when hot winds devastate.

Japan lilies, *auratuma*, *speciosum album*, *roseum*, *Melpomene*, tiger lilies, funkias have bloomed most delightfully. For all Japan kinds only wood ashes are used, or manure, with leaf covering. Flowers are not cut till about to seed, or bloom may be retarded until the second year.

Our first bit of color was coral phlox, so for harmony other flowers along that side and at the back were shades of pink with some white. Perennials have been our choice, with mignonette as sole exception.

Our first year, desiring a cheap arbor, we planted six cedar posts, with wire netting over the top and sides, with the top projecting two or three feet, in front. *Clematis paniculata* at the sides with honeysuckle at back gave good results the third season. From a long box that brought the ailanthus was made a seat with a six-foot back. A neighbor was clearing her garden and sent us five tall privet bushes. These gave privacy quite soon, though an awning was necessary in the heat and glare.

A screen of cedar posts, five uprights with top of single posts, near the front, awaits its drapery of vines. *Actinidia arguta* promised well (in the Catalogue), but has given no results. Too much sea breeze. Japanese barberry also refused to grow till given a dense background of spruce and pitch pine and yucca.

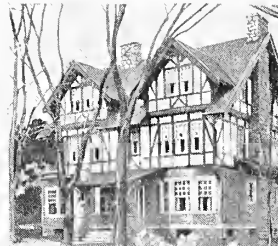
This rule given for transplanting may help you: Dig a deep hole, put grass, privet, or other cuttings in the bottom, fill with water, then set your bush, even in hot weather. Some trimming will not be amiss.

Maintenance of Electric Cars in the Country

(Continued from page 354)

One of the important matters in the maintenance of an electric vehicle is that of paying special attention to the braking mechanism, so that danger of brakes failing at a critical moment may be avoided. The care is simple and consists in seeing that a moderate pressure on the brake pedal produces a firm and sufficient retarding action on the vehicle. This simple test should be made daily before the vehicle starts from the garage. Taking up on the turnbuckle or cam springs will effect the necessary pressure. Sometimes, when the pressure is all right, there is still a slip between the shoe and the brake drum. This is generally caused by oil or grease working its way between the surfaces, and these should be washed out thoroughly with gasoline.

On the other hand, it is equally important that the brakes do not bind or drag. They should take hold gradually and bring the vehicle to an easy stop, as sudden



Herringbone prevents accidents like this

Herringbone Metal Lath, on inside or outside walls, holds plaster fast—makes homes that stand against time, weather or fire. The picture below illustrates the broad strands and characteristic appearance of

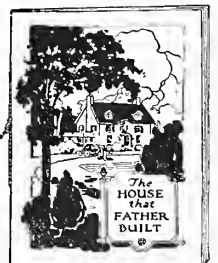
Herringbone Rigid Metal Lath

These broad, flat strands give a non-cutting spreading surface. They afford a big area for plaster and stucco to hold to. Herringbone walls do not crack.

Are you interested in a home that fire will not burn, that weather cannot destroy? If you are

"The House That Father Built"

will prove the most interesting and instructive book on building that you've ever read.



A statement of what and when you intend to build will bring you this book of pictures, plans, details of construction and other helps in working out a beautiful fire-resisting house at a reasonable cost.



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The General Fireproofing Co.

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Makers also of Self-Sentering, the concrete reinforcement that eliminates the need of forms.



No. 2. The Tavern
for Bluebirds. Very
unique design. Very
painted white. Price.....\$2.00

No. 3. Villa
Double wren house, fine
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tra. 6 to 16 ft. Gets ft.....\$2.75

Make Your Garden a Bird Home

Blue birds, wrens, martins, all the feathered beauties will flock to your hospitality. Enjoy their morning greeting, and besides, your garden will profit by the destruction of insects.

Our UNIQUE bird houses, shelter and baths are most artistic and will give a quaint interest to your place. "Had three wren families in mine last year."—M. R. E.

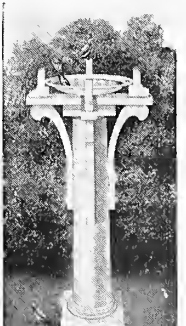
Order today. Send check or Money Order and put up the house at once for bird families this Spring. Ask for our UNIQUE Catalog.

Special introductory prices for 30 days

THE GARDEN UNIQUE

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No. 120. Colonial
Bath Pedestal
46 inches high.
Price only..\$7.50

For the health of your family

It is of the utmost importance that your refrigerator keep your foods sweet and pure, free from odors, impurities and contamination.

The McCray Refrigerator because of its patented scientific system of refrigeration keeps your perishable foods fresh and whole-

some and safeguards your family's health. The linings are snow white opal glass, porcelain or white enamel and are easily kept clean and sanitary.

For over 30 years the McCray has been the standard and is used wherever perfect refrigeration is demanded.

McCray Sanitary Refrigerators

Keep the Ice man out



are built in a great variety of sizes, for every requirement of residences, hotels, clubs, restaurants, delicatessen stores, groceries, meat markets, florists hospitals, public institutions, etc.

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No. 73 for Florists No. 61 for Meat Markets
No. 50 for Hotels, Restaurants, etc.

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and many others at 20 cents each; ten of one variety, \$1.50.

All two-year, field-grown, perfect stock.
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Shrubs, Fruits, Vines at equally low prices.
Send your order at once or send for full list.
Let us estimate on your wants. Reduced prices on all kinds stock.
Satisfaction guaranteed.

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Send for fully illustrated circular (H) of the famous HOWES bird attractors — its free.

THE MAPLEWOOD BIOLOGICAL LABORATORY
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Beautify your garden with this Wheatley Bird Bath

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The Wheatley Pottery

Give to your garden or lawn a touch of old Italy in this lovely piece of old ivory tint pottery. Here you have the exquisite colorings and effects of the pottery of Florence and Rome. Artistically perfect, weatherproof, durable. Height over all, 42 in.; bowl, 24 in. wide. Price complete, \$20. Mention No. 245A when you order. Satisfaction guaranteed or money back.

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Wheatley Pottery



Send \$2 for this everlasting bird house

Made of genuine Wheatley Pottery in beautiful rustic effects. Imperishable, weatherproof cheaper in the end than wood. Attached in a jiffy; never requires further attention. Scientifically constructed to attract birds. Order it now—you'll never regret giving your feathered friends a home. Satisfaction guaranteed or your money back. Folder showing different designs sent on request.



Sectional Flower Boxes

Instead of being made in one heavy, cumbersome piece, this flower box is made in smaller units of continuous design. Each unit fits closely to the other, giving appearance of one flower box. For proper sizes for porch rails, window sills and garden use see Wheatley Portfolio.

THE WHEATLEY POTTERY, 2427 Reading Rd., Cincinnati, Ohio

locking of the brakes may cause stripped tires, skidding, or other damage. The pressure upon the brake drums should be as nearly uniform as possible, so that the tendency to skid will be reduced to a minimum. Dragging brakes cause unnecessary wear on the brake lining, and use up power or battery capacity, thus reducing the mileage. The shoes should ride about one-eighth inch free of the drums when the pedal is entirely released.

The motor of an electric vehicle requires but little attention. The brushes must always have the proper contact with the commutator, and be renewed as they wear down. The bearings require regular lubrication and the wire terminals and other parts must be kept dry and clean. The controller is not as complicated a device as it seems to be. It is nothing more than a switching arrangement for connecting the battery to the motor in various ways, so that the speed or direction of the motor may be changed. It should be lubricated frequently and moderately. When the vehicle is in daily service the controller should be carefully examined once a week, the fingers adjusted to an even, moderate tension, run parallel with the drum and faced with sandpaper, to afford a good contact. Badly burned fingers should be replaced and fitted into position. The drum segments are to be cleaned and wiped with a linen rag and a small quantity of vaseline. If blistered or pitted, they must be sandpapered.

My Suburban Garden

(Continued from page 353)

shovelful of manure in each hill having been thoroughly incorporated into the soil. I therefore decided to plant this in rhubarb, as the six plants in front of the hot frame had not yielded enough to keep us in pies and preserves. Ten big, flourishing plants are none too much for a husky family of five; I put in twelve.

One the other side of the hot frame also went four rows of stringless beans in two plantings and five rows of potatoes, taking altogether 22 x 25 feet of garden, which ended the strictly wheel hoe part of the layout. Here the carriage drive curved in to the little plaza in front of the barn, making long runs with the hoe impossible, and the soil was all "made," being built up from old compost piles, ashes, manure heaps, weed piles, corn stalks and general garden refuse. Three wagonloads of field soil were worked into this and the drain extended across it and under the barn, as shown. This soil, after a winter's weathering, was very rich and humid, and it was laid out in beds for the sown plants, two for Early Round Top radish (the French Breakfast doesn't seem to do well with us), two for mignonette head lettuce from hot-frame plants, one for egg plants and one for small soup and stew carrots. All these require a rich soil and depend

upon quick growing for their tenderness. They get all the morning sun, besides a lot of heat reflected from the barn wall, and, by four o'clock, the forest shade tempers the sun for the rest of the day.

Remained lima beans and corn to provide for. The bean arch system was such a success the year before that I decided to enlarge it and provide for a succession from August to November, as limas continue to grow until a hard frost hits them. Beans and corn in the West Garden looked like the best disposition to make of that 20 x 40 feet. Three rows of bean hills, on two-foot spacing 2 feet in the row, worked out well, giving four sets of arches, the center hill having a straight pole bracing the center of the arch. This would give 36 bean hills, enough for four plantings of nine hills. The first set should not go in earlier than May 15, or still later with a cold, wet spring. The other plantings succeed at two-week intervals to July 1.

Allowing four feet for the west border and path, I had 14 x 40 feet for corn, enough for 6 rows on 30-inch centers, or 180 feet altogether. It seems unnecessary to warn amateur gardeners *not* to plant their corn in hills and *not* more than three kernels to the hill, but, sometimes, in an excess of zeal, as many as ten kernels get started in a single hill (probably because the seedmen sell you such a lot), with the result that ten spindly little stalks struggle for a livelihood and none of them produce a single ear. Corn should be rather planted in a straight groove made with the wheel hoe cultivator tooth, and three kernels are to be dropped at intervals of 2½ feet. As the little stalks grow tall you hoe up your hill around them, and they will be quick enough to send out more roots above the original ones. This method of planting insures that your stalks will not be wind-thrown when they get seven feet tall. I put in Golden Bantam, Early Metropolitan and Country Gentleman, from east to west, two rows of each, planted two weeks apart. The first two are large-grained, sweet table corns and the last a small-kerneled, fine table variety. First planting not earlier than May 7 in mild springs.

This ended the layout of the third-year garden, except for some red bell peppers and parsley set in the border between the Kiefer pears in front of the beans.

How much seed? We all buy too much seed. Two packets of each sort will seed that whole garden, and, with fine, mellow soil, there will be few non-germinating seeds. In fact, your thinnings should take care of the ultimate spacing of the vegetables.

You will observe that this last plan is notable for omitting the greater part of all the catalogued vegetables offered to the unwary amateur. There is no use in planting anything that you cannot raise, that weeds will surely choke if not babied, manicured and hand-massaged. I have

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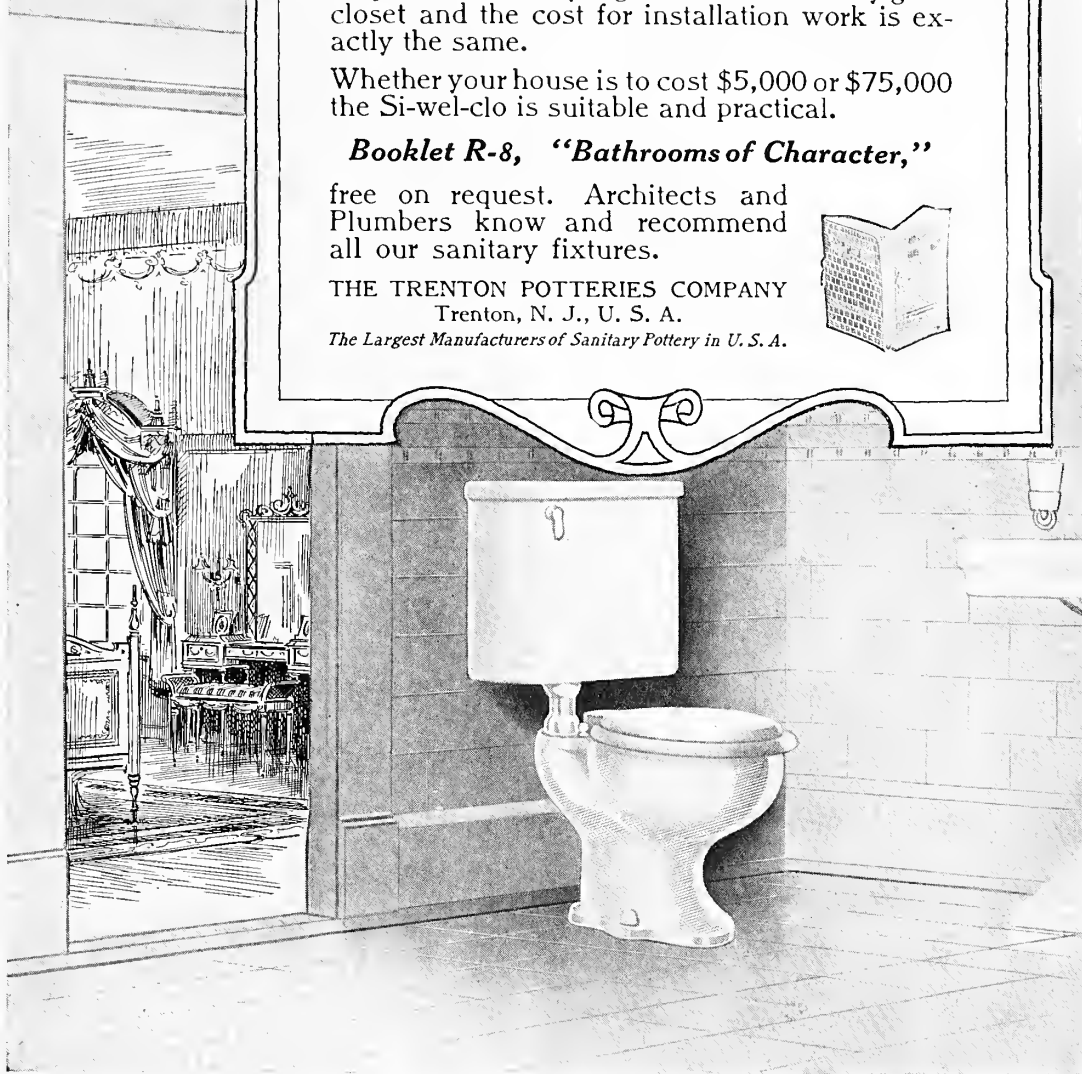
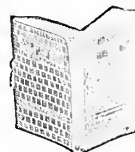
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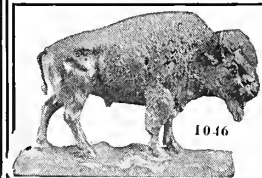
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my business affairs to run, and therefore plant nothing in my garden that cannot be weeded wholesale with a wheel hoe. The selection is exclusively broad-leaved, hardy vegetables, good weed-fighters in themselves, and, at that, the heap of husky weeds that you will pull up and pile in the compost heap during your morning and evening walks in the garden will more than fill a wagon load.

Celery, potatoes, onions, oyster plant, brussels sprouts, cabbages, cauliflower and even peas (unless you have a wire net for them) are a nuisance, and to succeed require the exclusive attention of a gardener. All of them have to be monkeyed with in one way or another a great deal too much for the business man to bother about, and the grocer charges so little for them in season that they do not repay for your labor.

And, for the land's sake, do not let any squashes or pumpkins or melons get loose in your garden, or they will own it in a month, and you will get one pumpkin in return for smothering fifty dishes of beets or beans, to say nothing of the pernicious habit of these vines of sprawling all over the place, making it impossible to run the wheel hoe and inviting an epidemic of weeds.

This plan suited me pretty well, and in mid-January the seeds were ordered and meanwhile the barn was finished. As fresh eggs had climbed to 72 cents a dozen, I saw no reason why a wing should not be added to the west side of the barn, making a 6 x 6-foot chicken house 8 feet high, and having a 6 x 36-foot runway along the west privet hedge as far as the blackberries. So I set about it, building it on the same architectural treatment as the barn, and by mid-February it became the abode of ten laying hens and a rooster. These were farm-yard Orpington stock, costing me a \$10 bill for the outfit. For I have always had a horror of fancy poultry stock, at \$1 an egg. They are grand chickens, I'll admit; and lay a marvelous egg; granted—when they lay. Ten barn-yard chicks begin to return an investment on your \$10 at once; they are not nervous about people, dogs and horses being about, for they always have been accustomed to being handled (and sometimes booted) around, and they always require no particular inducement beyond table scraps and a little whole corn to begin laying six eggs a day right off. And six eggs a day is exactly the consumption of our enterprising family. There is no money in poultry—verily; but there *is* in just plain chickens; in our case 36 cents a day.

There are a variety of nuisances which follow in the train of the festive hen, but a little planning ahead will circumvent most of them. One is Biddy's tendency to fly over the moon. Cut wings are all right, but they grow out again far too soon for the busy commuter to keep up with, wherefore the long, narrow chicken run, 6 feet x 36 feet, with a wire roof over-

head, the sides being not less than four feet high. Another is the problem of getting table scraps and water inside the yard without part of your colony taking French leave through the open door. The remedy is a double trough, with a lip outside for your scrap can and a lip inside for the hens, the footboard of the cage forming a central barrier down the length of the trough.

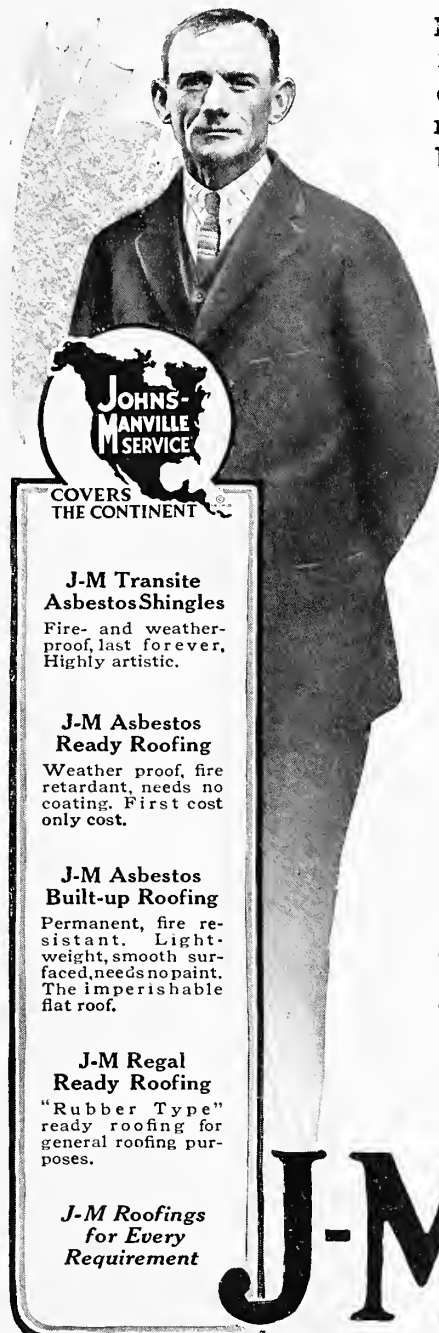
Then there is that cute habit the fruitful hen has of laying an egg almost anywhere but beside that glass egg, which you have so artfully placed in a wooden box in the chicken house. This is a symptom that Biddy H. does not appreciate your location of that box. It is too public; too much in the glare and limelight; and the cure is to locate your row of nests in the most secluded spot in the chicken house, in a dim, religious atmosphere, with a slanting board overhead to keep other fowls (or fools) from roosting in or on the nests.

The best recipe for making hens lay is to leave them alone, and make them scratch gravel for a living. They are just a bit nervous when there are humans about, and would rather not lay that egg, thank you, until you have gone about your business. And if they get their corn for the picking, or from one of those sprinklers that shower down a-plenty every time the hen pecks it, life becomes too easy a problem altogether to bother about laying any eggs. So I put down plenty of straw on the chicken yard floor, fed them whole corn, and they have to go down into the sand after the elusive kernel, thus introducing the healthful element of work into an otherwise sedentary existence.

Sanitation is another puzzler for the busy commuter and his hen house. You can use a dropping tray under the roosts and clean it at periodic intervals, or else have a cement floor, sanded, and the sand changed ever so often. I prefer the latter, as they dirty the chicken-house floor anyway, and you have both it and the tray to clean with the former scheme. In modern chickenhouses the tray is placed about three inches under the roosts—another reason why they do not lay—for if the hen had any say about it that roost would be the highest thing she could fly to. That primal instinct of preserving her own precious skin governs everything the hen thinks and does, and sleeping directly over a platform, presumably not rat-proof, is nervous business; wherefore, for laying hens, put your roosts well up under the roof, with a footboard leading up near, but not to the first rung.

All of which doctrine was faithfully carried out in building my chicken wing of the barn, with results that fully justified the time and labor involved in bringing it about.

I had always rejoiced in pigeons on my boyhood place. They are a nuisance (and so are dogs, for that matter), but I love them and I meant to have them, in spite of the shrieks of protest from my better



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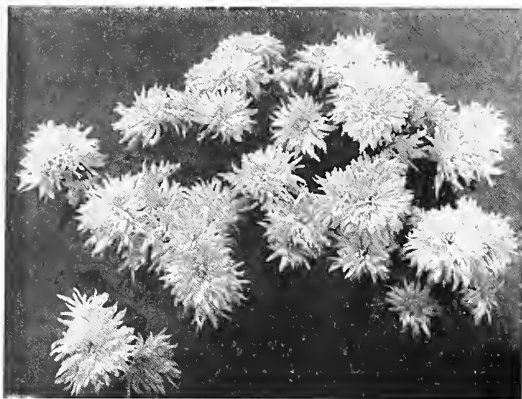
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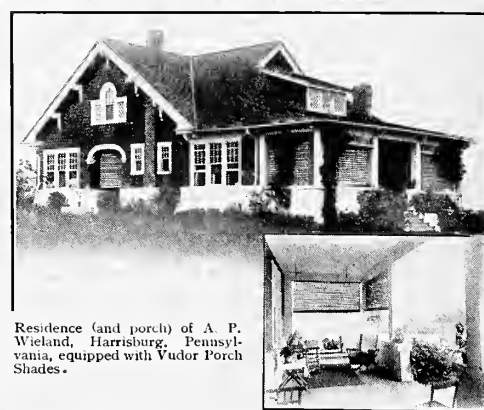
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half. No country place, even a little one, is complete without some pigeons flapping down into the driveway and making an ornament of themselves about the barn (once we even tried a white rabbit, but he ate up all the pansies and was such a general nuisance that we gave him away to save the garden), and there is always room for them up in the gable ends of the barn, so I omitted the cornice on the west gable and brought out the shingling to meet the eave moulding, pierced five pigeon holes through the shingles with a couple of shelves under them, and there you were! The sheathing on this end went behind the studding, leaving a space of some 16 inches between it and the shingles; ample for a pigeon loft, as it only needed some roosts and some nest boxes close under the slant of the roof to make an entirely practical abode for a dozen pigeons. Less than that, many will seldom stay with you, and they need at first a temporary wire cage in front, built out over the chicken-house roof.

All these operations sent the winter whizzing by like a bobsled, so that we hardly had time to do any skating, and by the time the chickens were in it was the middle of February and time to plant the new lettuce and radishes in the greenhouse. The last of the old lettuce was cleaned out of the hotbed and eaten (making an unbroken record of lettuce for the whole year), and we went into our third spring with a rush. By the middle of March the first peas went in outside, the leaves were cleared off the strawberries and a good sprinkling of manure added to them, and then in regular succession the spinach, beets, outside radishes and lettuce were planted, all the fruits and berries began to bud, and by the 11th of April we had a pretty little floral display of first blossoms. A day in March devoted to pruning and spraying the fruit trees was all the attention they asked. In big orchards the pruning is done in December, January or February, as there is too much to do in March to wait that long, but I wait until the winter is through and then prune out all the winter-killed shoots, cutting off about an inch beyond the green wood, which is all the pruning they need during the first few years. The spraying is essential, to discourage a certain lively spring fly, who stings the young blossom, making it set wormy fruit.

About the middle of April our horse arrived. I had sworn by the nine o'clock commuter's train that the only "car" that ever got into our "garage" would be a four-legged one; a silky-haired, black "car," with a white blaze on his nose, 14 hands high, with fuzzy ears and wonderful brown eyes! He was a Western cayuse, one of a carload of Montana stock, broken to saddle and "democrat," which in our case was a light, four-seated phaeton. He is busy paying dividends on his bale of hay all day long, for he gets hitched up to take me to the train, the



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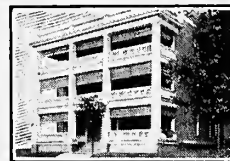
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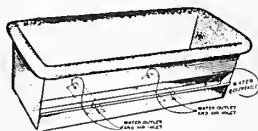


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madam to market, and the kids to school every morning; besides being ridden by all of us, particularly the children, every day of his life. And if the man with a "car" gets more fun out of it (or, rather, if his family does when he is not there), I'm sitting here to be shown!

I moved the three dogs out into their kennel on the barn porch in March. They are apt to get mangy with too much lying before open fires in the house, and, except in the severest weather, do better out of doors. Our little pack comprises one Airedale, one English setter and one Walker strain Southern foxhound, a bunch of dogs that can track and tackle anything in the game line that runs or flies, besides being great family pets. The pigeons were bought in May, six pairs of them, slates and buffs, ordinary stock, and given into the care of my little nine-year-old daughter; which brings us up pretty close to the present day, with the garden in full swing, the corn and beans in, and the tomatoes set out.

Taking census, we have found growing room, without crowding, for 26 fruit trees, 70 berries and currants, an asparagus bed, a strawberry bed, a full vegetable garden producing enough for the summer and a part of the winter (and omitting the bulk staples, such as potatoes, onions, sweet potatoes, etc.); also a horse, dogs, chickens and pigeons. The place sells nothing outside, and is in no sense a farm—more than half of it is devoted to lawns, shrubbery and the main house—yet the rear half keeps the grocer at bay for a family of six. We have a staple grocery store in our own cellars, and so have dispensed with the gentleman entirely—with his little bill of fifty dollars a month!

What will I do next? Well, I intend to have that tennis court the next strip I clear, with a potato patch in behind its rear backstop. I have quite enough lawn to mow now, thank you, without keeping a man on the place, so it will be a dirt court.

The remaining one-third acre I propose to leave in woodland and do a little forestry on it; but let me tell you "in our next" how we made our lawns, drives and put in our evergreens, flowering shrubs, roses and vines. For thereby hangs a tale of much experience.

Have you ever stooped to drink at a brook and noticed what seemed to be animated stones creeping along the bottom? Then you're acquainted with the queer summer-house dwellers that S. H. Chubb describes in his article on "Master Masons and Builders," in the JUNE HOUSE AND GARDEN. Their methods are marvelous and their houses and architecture will arouse your interest.





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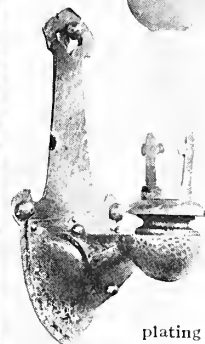
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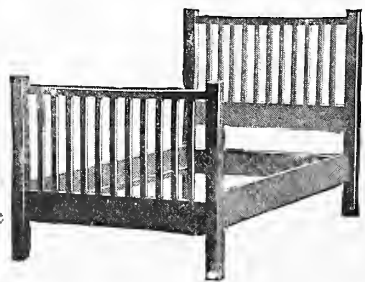
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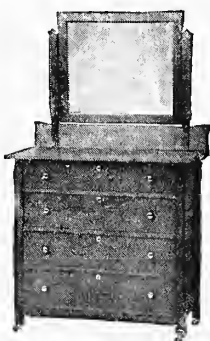


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THE MATHEWS MANUFACTURING CO.
909 Williamson Building Cleveland, Ohio

Garden Accessories

(Continued from page 355)

green sticks are so natural that one instinctively stops to listen for the song or chirp. The birds are life-size and hand-painted in exact representation of our feathered friends—a delight to the eye in any garden. The little pottery birds are more expensive, though less natural, but are very durable.

Another bright touch to the garden, whether or not the blossoms are out, is the old-time "wishing ball." The wishing ball is grandfather to those delightful, big, red Christmas tree balls—a great, shining, red glass globe ten inches in diameter, mounted on a pedestal. Its mission is to reflect the glow of the skies, the fleeciness of the clouds and the myriad delights of the garden. A most effective pedestal is formed of a solid column of ivy growing in an urn.

If you have a practical vegetable garden, the new vegetable basket will fill you with longing—until some kind friend sees that you have one. They are large and flat-bottomed, reminding one somewhat of a flat-bottomed rowboat with two sterns, the ends curving up a little and sides high enough to keep the cuttings and pickings where they are placed. These baskets are for sale separate, or they come fitted with a kneeling cushion, which is impervious to moisture; a large apron of hopsacking with bib and immense pockets; a set of long-handled implements—weed grubber, trowel, fork and marking line with iron winder and a dozen wooden markers with indelible pencil. With this outfit the amateur gardener can make the output of the garden decidedly professional.

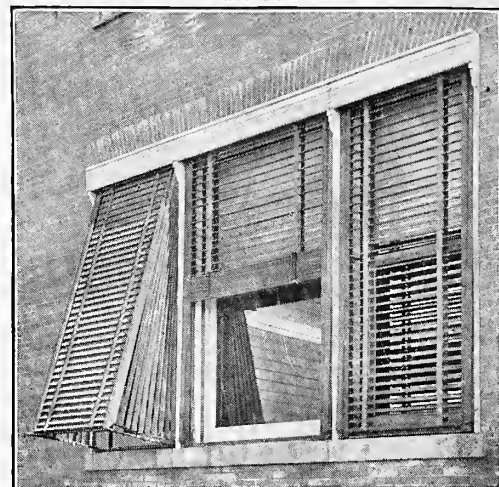
The latest in flower baskets is scoop-shaped with crossed handle, and is fitted out with a bright flowered cretonne apron of capacious pockets; notebook and pencil; flower markers in glass cases; wire; garden tape; kneeling cushion; pruning shears and rose scissors. When the flowers are picked and ready to arrange, the new wooden flower tray is almost indispensable. It is large enough to protect the table from wet vases, and provides plenty of room for sorting and arranging.

Rose baskets come fitted out with gay flowered apron, soft straw garden hat, scissors and wire.

For any garden or flower work where a special protection is required for a woman's gown, the large rubber apron is most desirable—especially useful in arranging the vases, for water will spatter "in the best regulated families." For artistic effect, however, the dainty smocked linen apron with great pockets, and sun-bonnet and sleeve protectors to match, are first choice.

For the porch or indoor use the sculptured flower-holder appeals to the artistic eye, and various bronze and pewter figures suited to the use to which they are to be put are combined with handsome pot-

TO ENJOY THE MAXIMUM SUMMER
COMFORT BY NIGHT AND DAY
use the



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On Windows and Piazzas
Gives perfect control of light and air, very easily operated, artistic and durable. Transforms a Piazza or Porch into an enclosed outdoor sleeping room at will.

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"Art and Utility in Decoration"
And Samples

Grow your own Vegetables

Cut down your living expenses. You'll be astonished how easy it is to save time, labor, and money and get bigger and better crops when you use

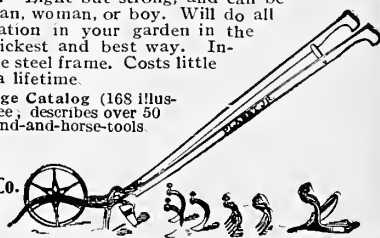
Planet Jr Garden Tools

This No. 16 Planet Jr is the highest type of Single Wheel Hoe made. Light but strong, and can be used by man, woman, or boy. Will do all the cultivation in your garden in the easiest, quickest and best way. Indestructible steel frame. Costs little and lasts a lifetime.

New 72-page Catalog (168 illustrations) free, describes over 50 different hand-and-horse-tools.

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S. L. Allen & Co.
Box 1110 K
Phila., Pa.



tery bowls, to hold fine, long-stemmed garden beauties.

Speaking now of real birds and not garden markers, no garden is complete in its hospitality without a drinking fountain for the songsters. Two unusual designs may be had in green and brown pottery: one with many open lips upon which the bird may perch and dip to get his drink without stepping in to take a bath—unless he is a very unwise little songster courting capture. Another, a replica of an ancient Egyptian bowl, the original of which is in the Metropolitan Museum of Art. This large, flat bowl will entice to bathe as well as to drink, and is large enough and shallow enough to accommodate quite a flock of thirsty and bath-desiring visitors.

For garden and porch use the old, painted wooden settle and chairs are now in great demand, the older the better. The indescribable green of some of these old specimens, decorated with gay flowers, harmonizes well with nature colorings. This furniture is a welcome change from the concrete and rustic pieces that have been much used of late years.

Garden Suggestions and Queries

(Continued from page 361)

little more in congenial soil. Blackberries are stronger growers and need from 4 to 5 x 5 to 7 feet apart, according to the amount of space, variety and method of training to be used. The dewberries are natural trainers, but in garden culture should be given support. They can be placed about as close as the blackberries. At the time of planting they should be cut back quite severely, unless one wants to let a few canes grow to bear fruit the same season. This is not a good plan for plants that are wanted for a permanent crop. A few extra ones may be had for use in this way and then cut out.

The larger fruit trees are set farther apart, and should each have a place spaded up and well enriched where they are to be set. They should be planted only where the drainage is good. In planting trees and shrubs and any other tough, fibrous-rooted plants, great care should be taken to get the soil in firmly about them. This cannot be done satisfactorily by filling the hole in with all the soil at once and by then trying to make it tight by stamping around on the surface. Do it several times while the hole is being filled up, using the foot or a blunt stick to do the "stamping" with. If water is needed, pour in a generous supply when the hole is about half filled and go on with the rest of the planting, leaving each tree the same way, and then go over it, and as soon as the water has become soaked up, finish the job.

Roses, hardy perennials and smaller things should be carefully guarded from wind and sun after they are received and until you are ready to get at the actual planting. Even then expose them as little as possible.



Dreer's Three Colossal Dahlias

Of the three hundred and forty-eight varieties of Dahlias which we offer in our Garden Book this season, all of which are strictly high grade and distinct either in color or form, none are more desirable than the three colossal sorts illustrated.

Kalif: A majestic flower frequently measuring over 9 inches across, of perfect cactus shape and pure scarlet in color.

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Nibelungenhort: The mammoth flowers of this Cactus variety are of a beautiful tint of old-rose illuminated with a golden-apricot suffusion.

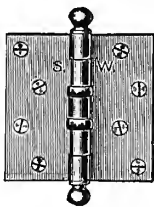
Price, any of the above, \$1.00 each; the set of three for \$2.50.

For complete list, not only of Dahlias, but the best of everything in Seeds, Plants and Bulbs, see Dreer's Garden Book. Free on request if you mention HOUSE & GARDEN.

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- Price includes delivery, FULL directions, how to grow LILIES sent with every order.

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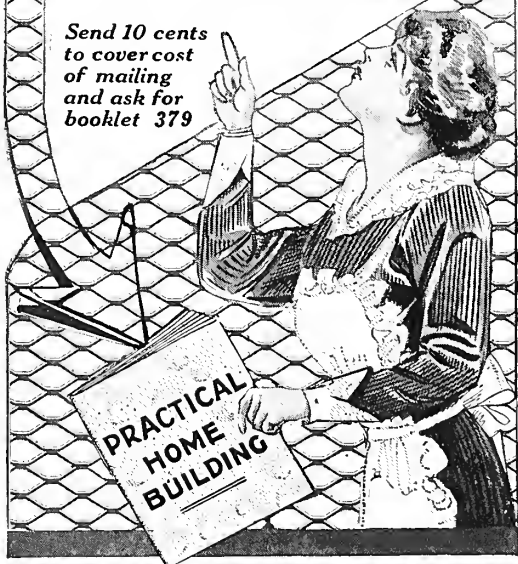
Insist on Kno-Burn Metal Lath in your new home. It is the practical base for plaster and stucco because it unfailingly binds the surface that covers it.

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Send 10 cents to cover cost of mailing and ask for booklet 379



Beautifying the Clothes-Line Posts

VINE-COVERED clothes-line posts are a unique novelty owned by a suburban resident of Cincinnati. This owner of a small suburban home, tired of seeing the plain wooden posts in his back yard, as well as in those of his neighbors, in order to do away with this unsightly object decided to try the experiment of covering them with vines. With this end in view, he planted sprouts of honeysuckle around the posts, which had previously been encased in chicken-wire netting.

In a few weeks the honeysuckle had taken root and begun a rapid growth which



Instead of the glaring white monstrosity, which makes the average American "back yard" hideous, one sees a pleasant profusion of green leaves

in a short time completely covered the unsightly posts, as shown in the accompanying illustration.

To make the old posts doubly attractive he nailed little bird homes to the tops of them, hoping to attract some of those native song birds he had been reading so much about. He was successful, for early last April along came a pair of blue-birds, the most desirable of all the song birds, and they took possession of the hutlet on the post here illustrated. They built a nest in the little home provided for them and reared a brood of four husky little

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A liquid cement coating which becomes an inseparable part of the wall, sealing all pores and filling hair-cracks. Hard as flint. Damp-proof, weather-resisting. Gives uniform, artistic color. Applied to new or old walls. Furnished in a variety of pleasing tones. It will pay you to learn about Trus-Con Waterproofing Products. Write for full information, telling us your needs.

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A Rocket of Blazing Red



The gorgeous Tritoma, flashing like fire, light the shrub border and make the garden brilliant with scarlet, yellow, orange and gold. My splendid collection of these novel plants is illustrated and described in the new edition of

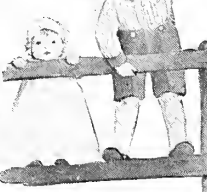
Farr's Hardy Plant Specialties

A book of inspiration and help for those who want a garden that need not be renewed each year. Over 500 varieties of Peonies, scores of Irises, Phloxes, Delphiniums, and other favorites are included, twelve plates in the colors of nature, and many one-color illustrations, show these splendid plants. A list of new and rare Dahlias is one of the features of this splendid book. Send for a copy before you make your garden plans this spring.

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youngsters. Will they return next spring? If they do they will not only find their little home waiting for them on the honeysuckle-clad post, but they will find many other such posts in neighboring yards, for the idea has caught on, and the neighbors are now starting honeysuckle sprouts all around their clothes-line posts.

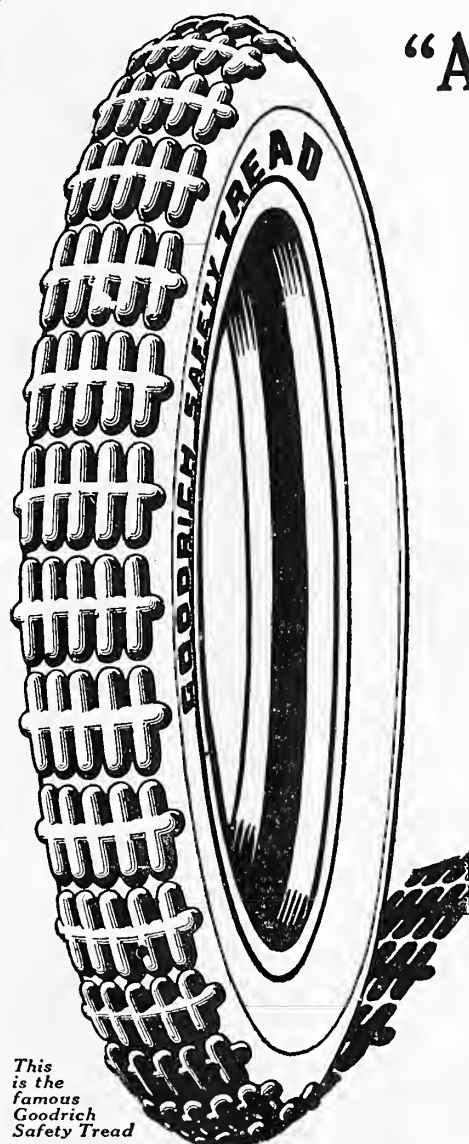
Which posts would you rather have in your yard—the one in the foreground, with its pretty green dress, or those just back of it, which illustrate how the former looked before being dressed up?

Your Saturday Afternoon Garden (Continued from page 337)

too much or scatter it so that it stays on the leaves in lumps, you may damage some crops with it.

If a rain comes you should go over the ground as soon as it dries, so as to break up the crust before the soil hardens. At the third or fourth cultivation, when the plants are beginning to be of good size, but when it is a little difficult to work close around them, a little earth may be thrown towards them—not enough to “hill” them, in the old-fashioned sense of the word, but enough to come an inch or two up the stalk and to cover up and smother any sprouting weeds which the hoe may have missed. If the crop is growing as it should, most of the space between the rows will be covered by the spreading leaves, so as to make much further cultivation both impossible and unnecessary. And as long as there is any ground visible the centers of the rows that can be worked should be gone over frequently enough to keep it mellow on top. In spite of the best of care, there will probably be a few weeds that will come through and grow to a luxuriant middle age. If they grow so large that you cannot pull them without injuring the plants near which they are growing, cut them off at the roots just below the soil before they go to seed.

Onions and other crops which are sown by seed in a continuous drill are not so easily cared for. Usually the seed will have been sown several times as thick as the plants should stand. If the seed is strong and conditions have been good, more plants than are wanted will appear. These should be thinned out at the first or second weeding to two inches or so apart. The methods to be followed in keeping the crops free from the weeds must be quite different from those just described. As it takes the plants from 12 to 20 days to come up, it is a good plan to rake the ground right over the rows very gently with an iron rake. Whether this is done or not, as soon as the plants have come up far enough for the rows to be seen, the wheel-hoe, with a disc attachment if you have it, should be put into operation and the rows gone over. A few days after this most of the plants will be far enough up to be seen, and then the important job of “hand-weeding” is in



This is the famous Goodrich Safety Tread

Note the following table of comparative prices on non-skid tires. Columns headed “A,” “B,” “C,” and “D” represent four highly-advertised tires:

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		“A”	“B”	“C”	“D”
30x3	\$ 9.45	\$10.55	\$10.95	\$16.35	\$18.10
30x3½	12.20	13.35	14.20	21.70	23.60
32x3½	14.00	15.40	16.30	22.85	25.30
34x4	20.35	22.30	23.80	31.15	33.55
36x4½	28.70	32.15	33.60	41.85	41.40
37x5	33.90	39.80	41.80	49.85	52.05

“All Cats look gray —at Night!”

THERE are Car Owners who regularly get 25% to 50% MORE Mileage, per Dollar invested in Tires, than do the Owners of other Cars driven with equal care, under equivalent road conditions.

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NOW that is to tell him that there is as much difference between the Mileage and Resilience of different brands of Tires, when the facts are investigated, and proven through actual Service, as there is difference between the Colors of Cats—when viewed by Daylight.

This is to inform him that three Rubber Factories using precisely the same quantity and quality of Materials might, and sometimes do, produce (through the difference in their Rubber EXPERIENCE and efficiency methods) Tires with a difference of 1,000 to 2,000 miles average in Mileage-delivery.

THOUGH The B. F. Goodrich Co. can, and does, put the most Mileage, per Amount invested by the User, into Goodrich Safety-Tread Tires, it doesn't interpret that as a reason why it should charge a higher price.

—Said higher price being merely to include an “Insurance” Premium which would place its “Adjustment Basis” beyond the safe and reasonable minimum that bad roads and Careless Driving make necessary.

BECAUSE of its Manufacturing Advantages, its Precision Methods and Waste-reducing Processes (resulting from its 45 years' EXPERIENCE in the working of Rubber), The B. F. Goodrich Co. can afford to and does, offer the greatest Mileage in Tires at the fairest Price, per Mile, to the User.

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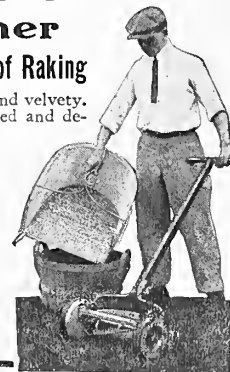
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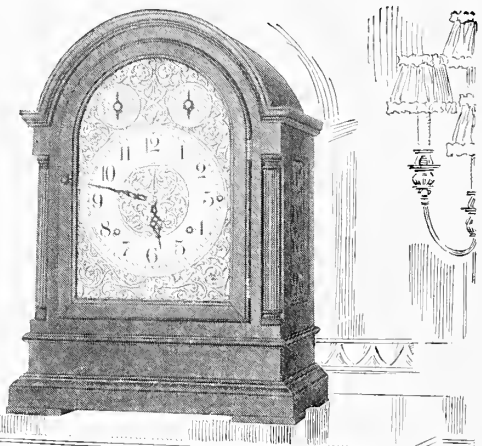
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order. This means hands-and-knees and thumb-and-finger work. There are several types of hand-weeders which can be used to help out in this work, but none of them will enable one to do away with the use of thumb and finger. The all-important thing is to get every weed, and this means pulling not only every one you see, but also those that are not yet large enough to be seen, by breaking every particle of crust. The wheel-hoe should be used to keep the soil between the rows loose and mellow, no matter how often it may be necessary to go over the ground. A second hand-weeding will usually be necessary, and sometimes even a third and fourth. The crops should be kept scrupulously clean as long as it is possible to go over them.

Corn, melons, pole beans, and other things which are planted similarly are handled in much the same way as plants set out in hills, except that, as they have less of a start over the weeds, even more care is necessary in destroying the latter. Corn should be planted four stalks to a hill—and the soil about the hills, which must be worked with a hoe, should be gone over frequently. With things that are planted far apart there is danger of neglecting the ground between the hills and rows during the early stages of growth. Instead of saving any trouble, however, this only makes more. Keep the whole surface well cultivated.

The things to be planted this month are just the opposite in character from those which were planted last month, and weather conditions are frequently quite as contrary. Therefore your planting methods must be changed accordingly. Little is gained by putting in the tender crops—such as tomatoes, peppers, egg-plants and beans, melons, and the better varieties of sweet corn—before the ground is ready for them and the weather settled. The secret of success with these things is to have everything ready—ground, fertilizer, and the plants—where they can be started in the best possible shape; so that when the weather conditions are right they can be given every opportunity to make the greatest possible growth.

The depth at which the various tender vegetables should be planted will vary greatly from season to season. Of course, in lighter soils they should always be covered a little deeper than in heavy soils, particularly where drainage happens to be poor. Sometimes, as a result of dry weather following the opening of spring, it happens that even early in May the ground is quite dry and the weather hot. Under such conditions planting should be relatively deep. Where a long, cold, wet spring is encountered, the planting, on the other hand, should be shallow. The extremes of dryness and heat and wet and cold should both be avoided. The first will either cause the seed to fail to germinate or to die as soon as it does; the



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If you wish to take advantage of our very low prices, we must have your order not later than July 1st, as we import Bulbs to order only. They need not be paid for until after delivery, nor taken if not satisfactory. (References required from new customers.) For prices on smaller quantities see our import price list, the most comprehensive catalogue of Bulbs published: may be had for the asking.

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"The Wood Finishing Authorities"

second, rots it before it has a chance to.

These late crops may be separated into three groups. The first group includes tomatoes, eggs, peppers and okra, all of which must be started under glass to make sure of a crop; the second, beans, sweet corn and okra from seed; the third, the various vine crops. For all of these things, except dwarf beans, it pays well to make especially prepared hills, enriched with manure or compost or fertilizer, so that an abundance of available food will be on hand for the immediate use of the plant. All these things grow naturally where the seasons are longer and warmer. And in all northern sections this loss should, to some extent, be made up by a little extra stimulation. For the first group and for all pole beans, the hills, after being marked out carefully, should be dug out with a hoe and half a handful of the same mixture of fertilizer, as advised for cabbages and other early plants, or some hen manure and ashes, mixed thoroughly with the soil at the bottom of each before planting, should be put in. For the third group and for pole beans the little hills are made much larger and require more thorough preparation. They should be dug out to a depth of several inches and from 18 to 20 inches across. Where manure is to be used, they should be made deeper than with compost or fertilizer. Two or three forkfuls of the former or handfuls of the latter should be mixed thoroughly with the soil over the whole area, and the soil that has been hoed should be replaced, covering the manure or fertilizer three inches or so deep. The hills may be raised very slightly above the surrounding surface, but they should never be "hill shaped," so that the water will run off. They should be either flat or slightly concave on top. With the vine crops the number of seeds planted varies from six to twenty—the larger the seed, the fewer are planted. The pole beans should be planted in a small circle, so that there will be room to set the pole in the middle. This should be done as soon as they are planted or shortly afterwards. Limas should always be planted with the eye down, because the bean itself must be pushed up through the soil in germinating. Do not plant them just before or after a rain, as they rot very quickly.

The Honest House

A book for everyone who wishes to create a house expressive of the owner and at the same time consistent is "The Honest House," by Ruby Ross Goodnew and Rayne Adams, The Century Company. It presents examples of the usual problems that face the home-builder, together with an exposition of the simple architectural principles underlying them. It is arranged especially with reference to small house designs.

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In answering mention HOUSE & GARDEN





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For the Modest Home
or Mansion

The Use of Woodwork in Interior Decoration

(Continued from page 349)

four-panel pine of the old type.

The reproduction of antiques is making great headway. Replicas of the old, carved, wooden candelabra are made in a cast fibre composition, the moulds taken directly from the old examples. Beautiful chandeliers and sidelights made of this material can be bought for the price of the usual stock brass ones. They make castings, too, from old carved panels or beam ends or brackets and grain them so perfectly that one has to touch them to tell they are not the original wood. Some of the cruder carvings could be used with advantage in such a room as we illustrated in the October number, and would accord perfectly with its rough stone chimney-breast and battened wainscoting. The candelabra we show in our Italian room each side the fireplace might well be such reproductions; wired ready for use, they would cost from \$30 to \$75 each, depending on their elaboration.

Let us suppose that you were about to finish a room; that you had decided on this Italian style, but that the cost must be kept as low as possible. The mantel of concrete stone you must retain. You would buy a stock casting directly from one of the mantel manufacturers. You would tell them, of course, that you intended to use the entire opening, that your flue was big enough; they would bevel back the lintel for you, as our section shows. The back, jambs and hearth you would lay in gray-brown or yellow brick, rough or smooth, laying them flat for the hearth and on edge for the back and jambs as tiles would be laid, perhaps in a herring-bone pattern somewhat as we showed in last October issue, or perhaps in alternating bands, first a flat, then a row on end. You would omit the costly iron fireback.

The wainscoting you would leave out altogether. The walls would be plastered, of course, with perhaps a small plaster cornice next the plastered ceiling. The single-panel stock veneered door is as cheap as any, and the only other woodwork would be in the "trim" around it and at the windows and in the base around the floor, unless there were no plaster cornice and a picture rail were set close to the ceiling to crown and terminate the color treatment of the walls; but perhaps you might choose to retain the beamed ceiling.

Now a beamed ceiling is more expensive than plaster, unless the real beams are planed and exposed their whole depth, with only the double wood floor and the felt between, to deaden the sounds of walking in the room above; but modern beams are so deep in proportion to their thickness that the recesses left between seem disagreeably narrow. In former days, when beamed ceilings were well nigh universal, floor beams were hardly square.



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WE make the kind that last, simply because the materials are right, and the fences are made the right way to last. No skimping. No cutting of corners. No low-grade materials.

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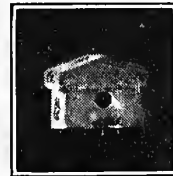
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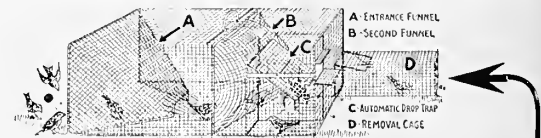
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as wide as they were deep; floors were of heavy plank and the beams set well apart.

Since then we have learned that such a proportioning was mechanically wasteful, and with less material we get much stiffer floors. The strength of a beam is directly proportional to its thickness, but proportional also to the *square* of its depth; therefore a beam 2" x 8" is just twice as strong as a beam 4" x 4", for $2 \times 8^2 = 128$ and $4 \times 4^2 = 64$, yet each contains the same amount of material and costs the same, twice the value for the same investment. Therefore we use deep, narrow beams, 2 x 8, 2 x 10 or 2 x 12, which are kept from bending sideways by *cross-bridging* of slender stick nailed diagonally between them. A line of cross-bridging also acts as a truss, so that if a person stands directly over a beam his weight is passed in part to the beams each side, and from these to the next, and so on, a function once performed by the heavy plank floors.

Now such a construction exposed on our ceiling would be most disagreeably complicated, but since we find the old ceilings decorative and pleasant to look at, we try to imitate them. We plane our beams, mould them at the edges, or even, perhaps, adze-cut them by hand; we make them a little thicker than necessary and place them as wide apart as we dare. Half way up we set our lath and plaster or long wood panels so an air space several inches deep lies between this and the floor above. Sometimes the exposed lower portion of the beams is cased with thin strips of wood and mouldings, as we showed in the detail of our last October's room; sometimes, with an utter disregard of construction, the entire ceiling is plastered and then flat planks laid across it to imitate the bottom of beams!

In the style we are describing there is no conventional wall treatment. The plaster might be sanded and painted, or wallpaper might be used over the ordinary smooth plaster, paper rich in pattern and in color, or else of an even grayish or pale or golden brown, toning in with the pale gray-brown stain of the doors and trim and baseboard. Such a color-scheme silhouettes the fireplace in strong relief and is a perfect background for paintings or casts or any objects that find a place there. A white background, on the contrary, or even white woodwork, renders the concrete fireplace rough and dingy and is therefore to be avoided. A pure white ceiling, though, is not offensive and the expense of a beam treatment you might discard. Recently I saw such a room, in which the walls were covered with a brown, almost dark - wrapping - paper - colored silky material, the woodwork stained to match it exactly, and where wall-hanging and woodwork joined, ran a narrow strip of black gimp, returning along the ceiling and against the baseboard, which was painted a rather glossy black. The black gave a singular individuality; the room was virile and thor-

GALLOWAY POTTERY

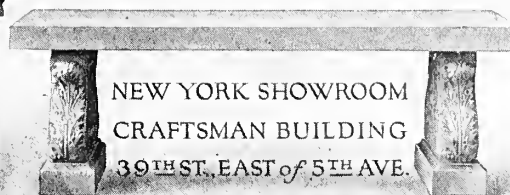
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oughly successful. After all, it is the color-scheme that will make or mar a room.

There is nothing in the style that demands great expense, once granting a hundred dollars or so for the mantel and something more for setting it. There is no compulsion in any other direction, as there is toward plaster ornament in the Adam, for instance. The style is formal, unquestionably, but not rigidly conventional; the flooring may be oak laid at 12 cents a foot, composition at 25 or 30 cents, tile at higher cost; the ceilings may be either plastered or with wooden beams; walls, plastered and painted or papered, or else wainscoted; woodwork painted or stained; it seems the most elastic style there is! Though essentially dignified, yet it might range anywhere in character from the simple Spanish Mission of the Southwest to the almost palace-museum type that the last few years have seen developed here and there throughout the United States.

But—the finish of the room must suit its furnishings. The Italian chairs and tables we see nowadays in all the furniture shops are perfectly suited to it. "Mission" or "Craftsman" furniture I have seen in a somewhat similar room, and even the better types of wicker, without there being such a discord as one might expect; but the old English mahogany, never; for the Chippendales or Sheratons are too delicate for its strong and robust nature.

After all, where furniture is delicate, decorations must be delicate; where furniture is crude and heavy, the architecture must be likewise. Harmony is more important than period. There is nothing necessarily shocking in old chairs or tables standing against wallpaper, invented a hundred years after they were made. A heavy-beamed ceiling over a Hepplewhite chair shocks us, not because the men of his age abhorred a beamed ceiling, but because chair and ceiling are intrinsically out of key. We have tried to emphasize this in these articles, and if we seem to have lavishly followed historic accessories it was because other combinations seemed discordant, not because they were innovations. No, and more than that, for the only true advance seems in the successful combinations of elements never combined before.

Concerning Rugs

Seated by the fireside, with your feet upon the hearth rug of silken sheen, did you ever indulge in reveries as you gazed upon its glorious vista of color harmony? Could it speak, what a story of romance, adventure, deprivation, it would tell! Such stories are told in Dr. G. Griffin Lewis' "The Mystery of the Oriental Rug," from the press of J. B. Lippincott Company. The author has successfully endeavored to present in a concise form certain facts that will enable the novice to understand more fully and appreciate the characteristics of these Eastern treasures.

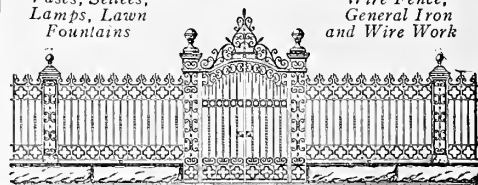


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These are bound to transplant successfully.

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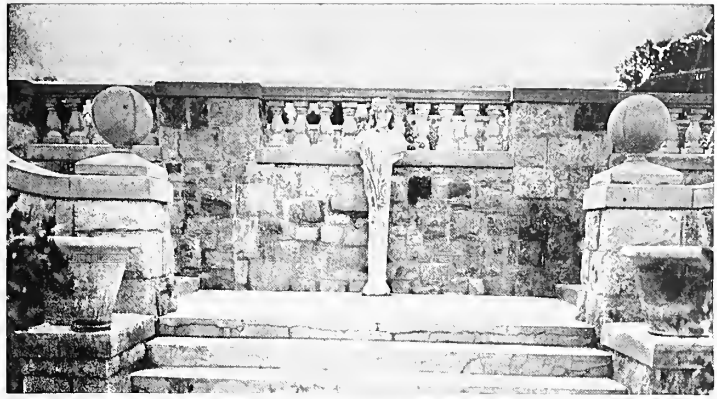
Efficiency in the Flower Garden

(Continued from page 351)

nevertheless, remains that just as artistic and pleasing effects can be produced with them as with any others. In determining what you will plant in any particular bed try to visualize exactly as you would in planting a hardy border or a landscape group the general effect which you desire to obtain, and then pick out the plants accordingly. The way a great many people plan their beds is to go to the florist's or sit down with a catalogue, make out a list of things they think are pretty, and then try to fit them into such beds as they may have at their disposal. They think it saves trouble. As a matter of fact, it does not. It makes a good deal more. You can arrange your various flower beds on paper in just one-tenth the time that you would give to arranging a lot of plants which have been bought without a definite place in mind for each one when it was purchased. Make a rough sketch of each bed or part of a bed in which you expect to set out bedding plants, decide just what is to go into each, and then you can make out your order intelligently, giving full attention to such things as color-schemes, covers for ugly walls, low plants for beds which would otherwise cut off part of your view, etc. That is efficiency in gardening with bedding plants.

But your efficiency should not stop there. If you order your plants by mail, you will, of course, have to buy "sight unseen," with nothing but the reputation of the firm to guarantee that they will be satisfactory. On the other hand, if you buy of a local dealer, where you can pick your plants out personally, you are likely to have a very much less complete assortment, especially so far as the new varieties are concerned. In case you do select your own plants, do not be guided solely by size.

The ideal plant for bedding purposes is a young, strong, rapidly growing one; its size is of comparatively little importance. An older plant, which may make two or three times as much show on a greenhouse bench, set out side by side with the former kind, although making a good deal more of a display for the first few weeks, or for the first few days, often will be far outstripped by the time the season is half over, and is likely to give much less satisfaction on account of lack of vigor of growth and of freedom of flowering. Of equal importance with getting vigorous, healthy plants, of course, is getting what you want—plants that are absolutely true to name. You should therefore procure them from some source upon which you can thoroughly rely. Even if bought from some local florist, where you can make a personal selection, it is not always possible to get every plant in flower. On the other hand, do not foolishly insist that every plant be loaded with bloom; no matter how carefully the



On the Estate of Mrs. Douglas Alexander, Stamford, Connecticut

From the commonplace to the interesting is after all but a short step. The ordinary garden can be given charm and grace often by the addition of a bit of statuary, a sundial or bench. The photograph above owes much of its attraction to the statuary and simple floral vases furnished by us. Study the possibilities of your garden or estate. Our catalogue illustrating many of our models executed in Pompeian Stone for use outdoors or in the hall or conservatory will provide valuable suggestions.

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Advise as fully as possible regarding size and condition of your property. No obligation. We are glad to be of service.

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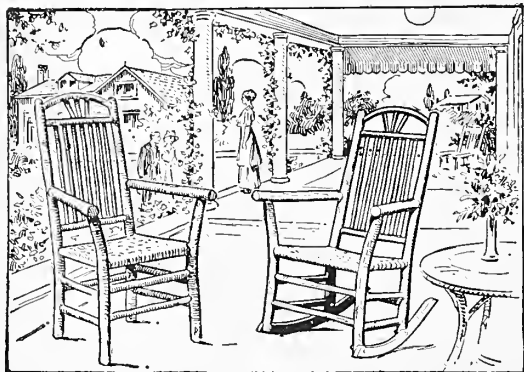


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work is done, there is some shock to the plants in transplanting, particularly if they have to be transported. Select, rather, the plants that are well supplied with buds, or flowers that are just beginning to open; these will develop quickly under favorable conditions; and while a bed of such plants will not make quite such a show the day it is set out, within a week it will probably be looking a hundred per cent better than if you had insisted upon selecting plants only with flowers in full bloom.

There is always a temptation to skip a little in the preparation of the bed where plants instead of seeds are to be used. A finely pulverized surface may not be quite so important, because you have not got to arrange to have the supply of soil moisture maintained so near the surface; but in every other respect it is just as important for you to do your level best in the preparation of every bed in which plants are to be set. Skimp neither on the uses of manures and fertilizers nor on the thoroughness with which the soil itself is prepared. And rake the bed fine and smooth on top, both for looks and to get a good mulch.

In spading up an old bed, the newly stirred soil will occupy more room than it did before, with the result that there may seem to be too much dirt which the careless gardener will find himself heaping up in the center. The bed should always be kept level and flat on top, even if it has to be raised a few inches by making it quite steep around the edges.

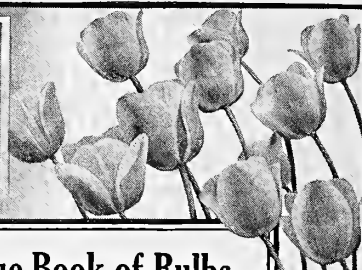
When ready to plant, set the plants in their pots in the different positions in which they are to go, and shift them around as necessary, until you are satisfied that you have got the best arrangement. In beds of a single kind of plant, keep the largest towards the middle. The plants in the pots should be thoroughly watered some hours—half a day or so—before planting; long enough so that they will have dried out sufficiently, but moist enough so that the ball of earth will hold together in good shape.

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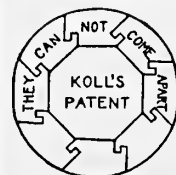
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Heliotrope.—These have been popular for a great many years, both on account of their beauty and their sweet fragrance. They should not be set out until settled weather, as they are more tender than geraniums and most of the other bedding plants. Severe check will cause them to drop their leaves. In good, rich ground they make a rank growth and should be given plenty of room. Being of shrubby growth, they may be trained to any desired shape or height.

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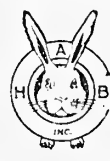
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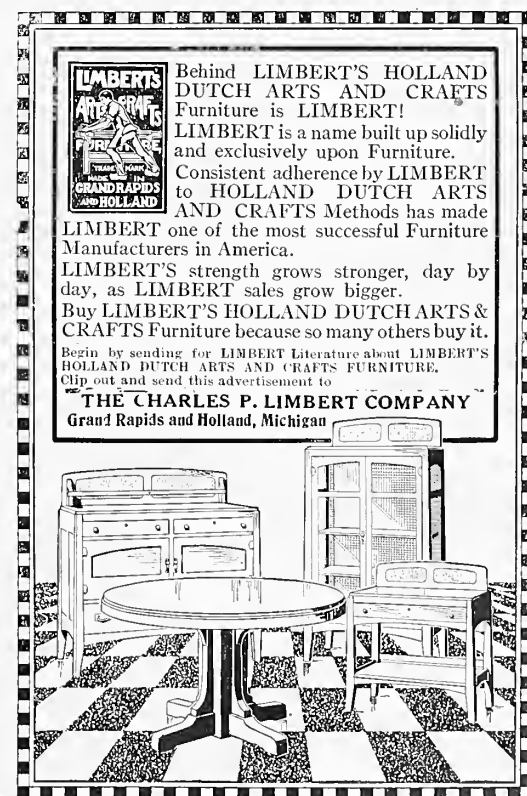
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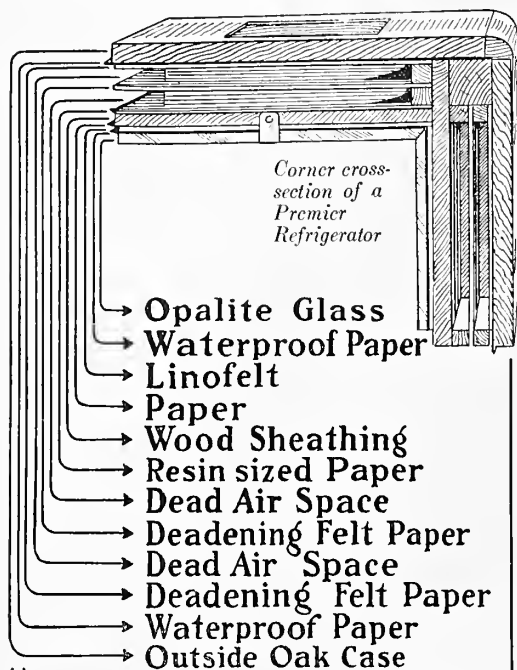
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Making a Garden in May

FOR some unknown reason, the gardens of this section do not show dahlias in the profusion that flowers so worthy of culture should be shown. They bloom at a time when flowers are beginning to be scarce and the glowing richness of their color harmonies might well insure them a wider cultivation. Tubers may be planted this month. They should be put in very deep, according to the size, and it is well to place them in a pocket of sand, so that no manure will come in contact with them and cause them to decay.

Select very carefully the place where your dahlias are to grow, for once planted they become a permanent feature in your garden, and do not need to be touched for several years. This fact adds much to their ease of cultivation, for in the South, dahlias, cannas and gladioli do not have to be taken up each year and protected during the winter. The tubers and corms remain in the ground from year to year, and can be left until they have multiplied so much that separation is necessary. The plants must be staked when about a foot tall, and only three or four of the strongest stalks allowed to mature. This will give not only quantity, but quality, in the blossoms. For ease of cultivation, length of time of bloom and brilliancy of coloring, there is nothing better than dahlias.

If there is some sunny spot near a vine-covered wall where the colors will stand out in rich glory in the blooming season, and yet the space will not be barren and unsightly in winter, the situation will be ideal. They might be placed in the rows between the hollyhocks, as both plantings must have sun, the habit of growth is similar, and the hollyhocks have finished blooming long before the dahlias begin.

As for varieties, there can be no question but that the Cactus and peony kinds, that show irregularities in the outline, grouping and arrangement of the petals, are more artistic than the older-fashioned sorts that lent themselves to reproduction in wax to the joy and admiration of an earlier generation. Selection of colors is a matter for individual taste, but self colors will be found to give richer effects than the variegated kinds. Every garden, where space permits, should plant dahlias in the border backgrounds this month.

Where there is not room for these flowers of larger growth there should be found a place for masses of chrysanthemums for fall bloom. The exhibition and standard varieties are all hardy in this section, and once planted continue to grow and multiply from year to year, as do most of the hardy perennials. However, these standard growths must be staked



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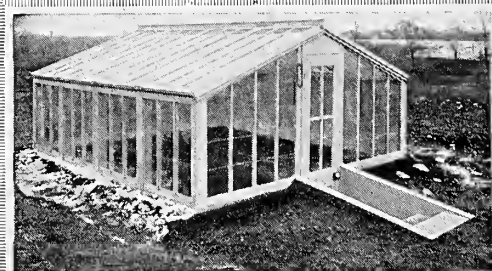
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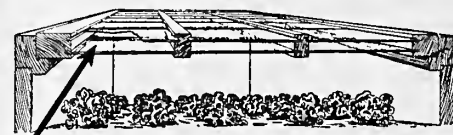
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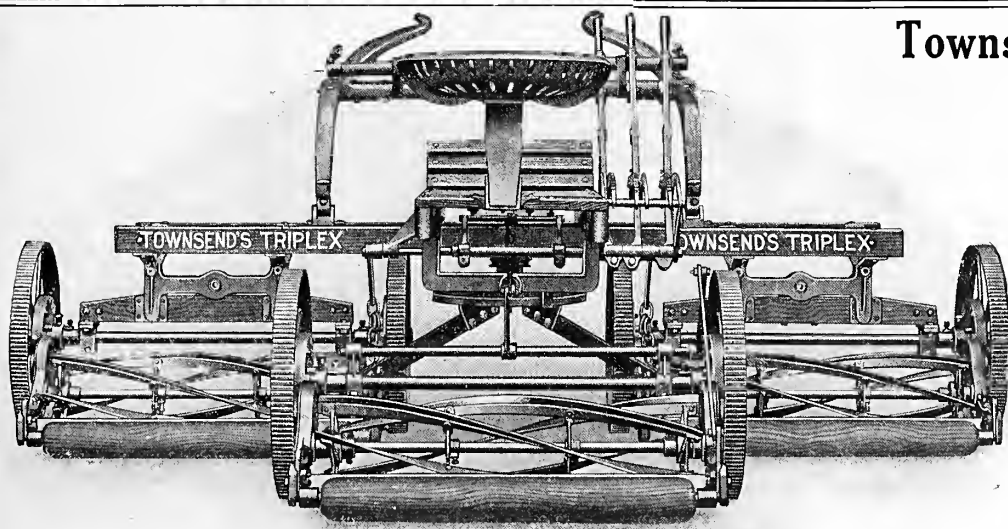
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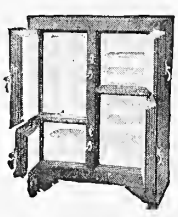
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later on, kept closely pinched back to insure bushy, rather than scraggy plants, and satisfactory bloom, and are often nipped by the frost just at the blossoming time. On the other hand, the hardy varieties, of smaller size, both as to plant and flower, need only to be planted, in colonies of worthy number, and practically left alone, for the garden to be filled for many weeks in the late summer and fall with the sunshine of the golden yellows, the rosiest of pinks, the deepest and richest of reds, and whites that rival in purity the clouds that sail overhead.

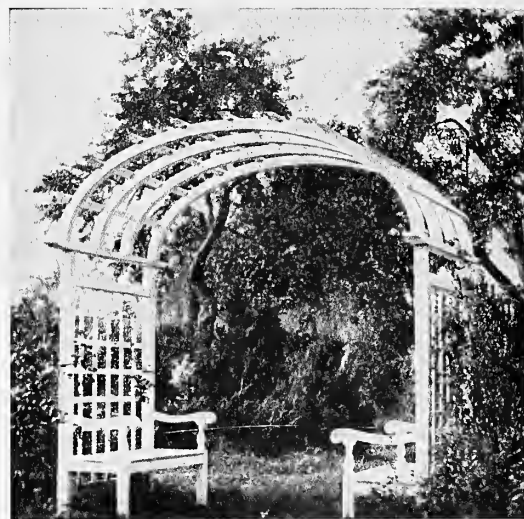
For weeks these effects charm both as cut flowers that lighten up the chilly corners of the house and wherever they spill themselves over the canvas of the garden. One of the most beautiful of these hardy varieties is that known as the Marguerite, with snowy petals ranged around a glowing center of purest yellow. This looks much like the hardy asters, Michaelmas daisies, but is of larger size as to flower and of smaller growth as to plant.

If there is a bare corner of the garden that needs filling, use both of these hardy plantings for fall blossoms. The chrysanthemums give one range of color tones, and to their effects the asters will bring the softest and clearest of blues and daintiest of lavenders, and also the whites and pinks. They require much more room than the chrysanthemums, but if space permits they are glorious—when planted in profusion—as they grow along the borders of our woodlands and sunshiny lanes and where the ruthless hand of the destroyer has passed them by and left them to flourish and add their share of glory to the autumn world.

If bloom is needed for the summer months there is nothing available in the way of bedding plants at this late day except the salvias, coleus and vincas. The two former grow equally well in sun and partial shade, and will grow often where nothing else will thrive. For this reason they are much used to lighten up the dark, north fronts of houses in close-crowded city streets. They serve this purpose admirably.

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the effect is very pleasing. Unlike the scarlet salvia, the blue varieties are true perennials, and come up year after year. The white panicles of the hardy phlox, the golden clusters of rudbeckia and masses of *salvia azurea* made a corner of one of my borders a place of loveliness for many, many weeks last summer. All three are getting ready to respond to an encore for this season. Now is an excellent time to make these plantings. If late varieties of the phlox are used, satisfaction is assured in the case of all three. The long, blue spikes that stand well above the clusters of blue-green leaves, that seem always shining and wet with dew, make beautiful arrangements for the flower bowls, either when used alone or with masses of the miniature sunflowers or coreopsis or other flowers of golden tints. Plant blue salvia for dainty color effects; plant the scarlet for bold and vivid color schemes.

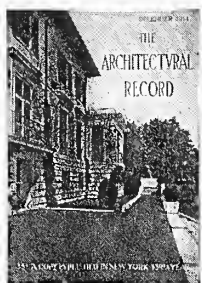
When the time to grow flowers from seed has passed, where nothing else will grow on account of shade, and where still some summer plantings are desired, the coleus is to be recommended. The florists always have them; they are very inexpensive, and the varieties with deep, rich leaves of crimson and red give brightness and color to dark spots. The yellow-leaved sorts are also effective. They fill in from early summer until frost, will grow in either sun or shade, and that is all that can be said for them.

The annual vincas, *rosca*, *alba* and *alba pura*, can be put out now to fill the borders and porch boxes in the sun and for edgings of walks and driveways. The dainty, white flowers and the rich green of the leaves will bring light and color to the summer garden from month to month. The texture of these plants is rather heavy, but the flower masses are very good, and they are most reliable.

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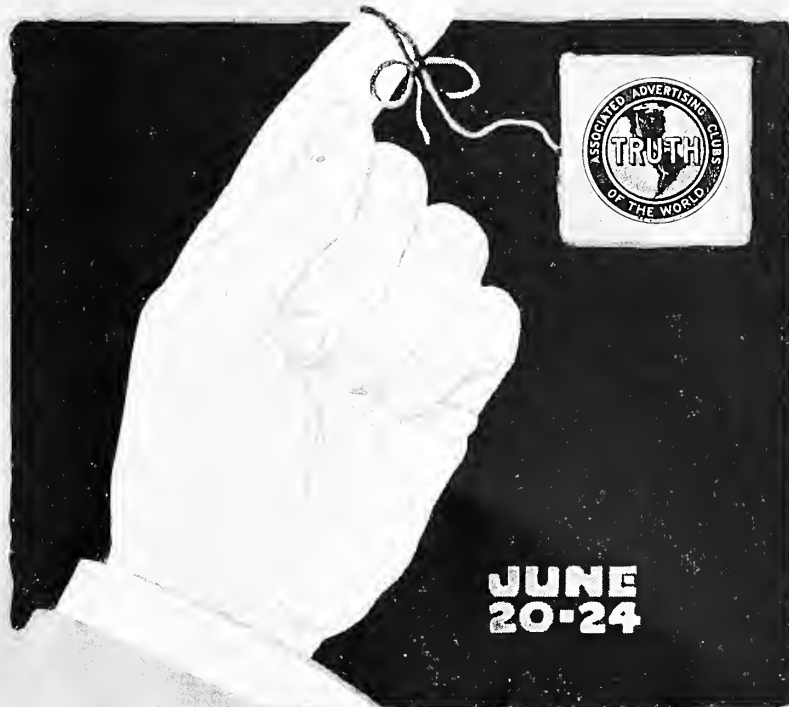
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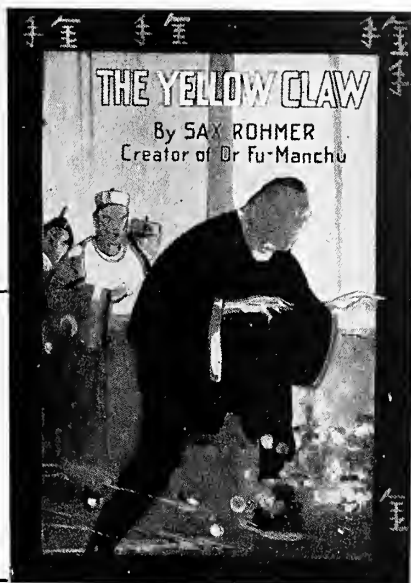
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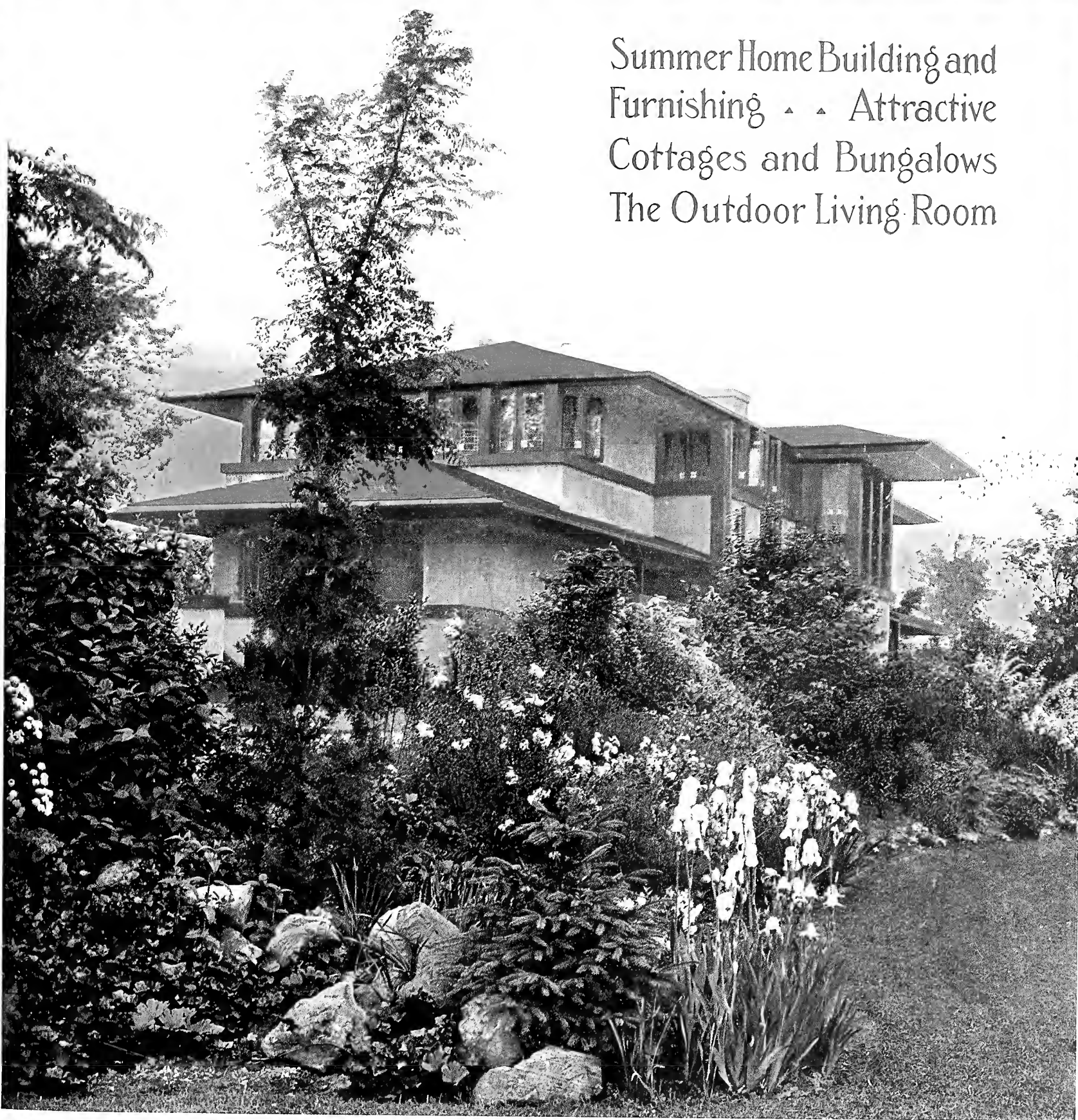
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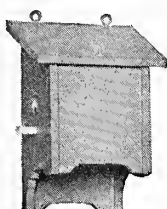


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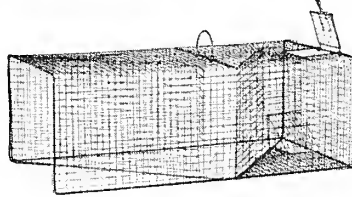
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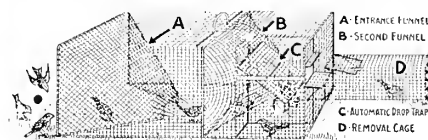
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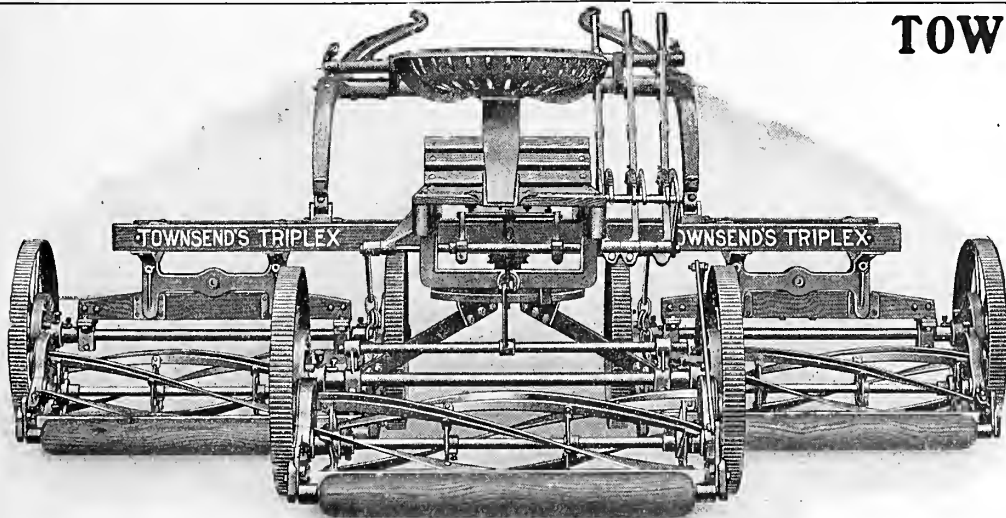
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Conducted by JULIA LESTER DILLON

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Southern Lawns

ON many of the estates in the South, which are used only as winter residences, June is the regular time for making over the lawns. Fertilizers are freely used, and after being spread over the surface are ploughed in. The ploughing is usually very deep and the sod is then disc-harrowed in order to cut it very fine. This done, the surface is raked as fine and smooth as it is possible to get it and then is left to mellow until October.

Deep raking and smoothing at this time is followed by thick seeding with an ever-green lawn grass seed, and, after rolling with a heavy roller and watering, the lawn is left to grow.

In a few weeks the seed will have germinated and grown sufficiently to allow cutting. Alternate rolling and cutting, weekly, from this time until December will result in a sod that is springy and firm to walk on, soft and velvety to touch, and a picture of green loveliness on which to feast the eyes.

This procedure is most expensive, and only those with expensive purses can afford to indulge. There is no doubt but that most of us have to live in our homes twelve months of the year, rather than five, and are more interested, therefore, in the making and care of an all-the-year lawn, than we are in one that is beautiful for less than half of that time.

In this section of the South and farther there is but one grass that can be depended upon to give greenness throughout the hot, dry summer months: that is the Bermuda, *Capriola* (*Cynodon*) *Dactylon*. This grows anywhere, except under the trees where there is dense shade; is to be depended on for lush, rich turf in fertile soils, and for strong, good sod on even the poorest soil. The roots spread by an underground system and go down so deep that for planting on banks or where the soil is apt to wash nothing is better.

The best way to plant Bermuda is to get the roots, cut them up fine, and plant out the sprigs into furrows in the drills twelve inches apart each way. Then the ground should be rolled. They are easily grown in the spring and can be planted at any time except in extremely dry weather in midsummer and in the midwinter season. This planting will give an even turf that should be rolled regularly and cut often. This grass alone will give a beautiful, soft, blue-green summer sod that will stand the hardest wear. When September comes the Bermuda begins to turn brown, and quick and hard work is necessary to keep the lawn in trim. The sod should be cut very closely, raked as



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smooth and clean as is possible, and over it a seeding of winter grasses be made.

The Italian Rye, *Lolium Italicum*, and the White Clover, *Trifolium repens*, used in the proportions of three to two, make a delightful winter combination. The rye is an annual and must be sown again each fall, but there is not a grass known to us that makes so fresh and green a lawn. Closely cut and regularly rolled, it is impossible to describe its beauty. Clover is always lovely and does not have to be sown again each season.

Pacey's or English Rye, *Lolium perenne*, var. *tenue*, is not quite so desirable as the Italian Rye for fresh beauty in the winter months, but it is a perennial and will last about four or five years. This is also about the length of time allowed by many good gardeners for the making over of the Bermuda lawns, so that if the Bermuda is used in the spring, the clover and ryes in the fall, the lawns should last for several years, with just enough reseeding of the bare spots to keep it even and neat.

Cottonseed meal and bone meal used in the spring are also most valuable aids to strong and even sods. They should be used in preference to the stable manure, unless the latter can be ploughed in deeply, and, even then, this must always be followed by a warfare against weeds that must be waged even more vigorously than is usual, and all of us who make lawns know that this is an endless battle.

Where it is not possible to secure the Bermuda roots for summer growth, plant the seed. Many use the Bermuda roots in spring and disc harrow in the fall and plant the Georgia Burr Clover, *Medicago arabic*, and declare that one planting of this makes either pasture or lawn for a lifetime. For large areas, for parks and much-used lawns, these two grasses are unequaled. For the smaller places the ryes and clover for winter and the Bermuda for the summer will give best results.

Farther South, in Charleston and Savannah, and on the warm, sandy, coast lands, St. Augustine grass, *Stenotaphrum Dinitiatum*, is much used. This is grown from cuttings set in summer, one foot apart, and every joint takes root and becomes a new center. It makes a dense, carpet-like growth and is almost an evergreen. It is often planted inland but seems to need the tang of the salt air for best results.

An attested mixture of evergreen lawn grass, recleaned seed, that has been used this winter with excellent results and is now making a strong spring growth that bids fair to hold out through the summer, is composed of the following six grasses: Kentucky blue, *Poa pratensis*, good for the higher sections of the South; Red Top, *Agrostis vulgaris*, good for filling in with the Blue grass; English Rye, *Lolium perenne*, var. *tenue*; Italian Rye, *Lolium Italicum*; Bermuda, *Capriola Dactylon*; and White Clover, *Trifolium repens*.



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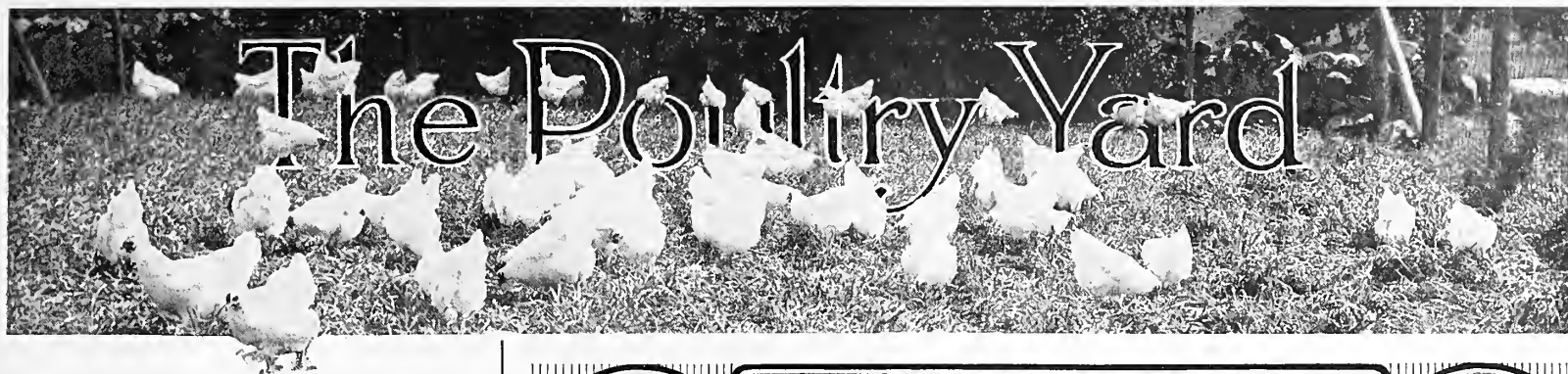
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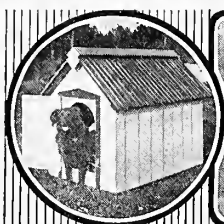
June Poultry Work

THOUSANDS of dollars would be saved by the poultry keepers of this country if they would get rid of their superfluous male birds. In some States what has been termed a "swat the rooster" campaign has been inaugurated. The principal object is to induce the farmers who handle eggs commercially to get rid of their cock birds, for the reason that non-fertile eggs keep better than those which are fertile. There is another side to this matter, because the very fact that fertile eggs go bad more quickly than infertile eggs is really a protection to the customer to a certain extent. Some physicians insist upon having fertile eggs on the ground that if they are stale that fact is bound to become evident. It is certainly to the advantage of the poultry keeper to get rid of his roosters as soon as the breeding season is over—and there should be none around later than June—unless, of course, they are good enough to carry over to the next season. It is a common practice to use two-year cocks with pullets at breeding time, but the judgment of the best poultry keepers seems to be that it is preferable to mate cockerels with two-year-old hens.

Hens that have stopped laying and those which are persistent in getting broody should be sold now, too. It is poor policy to carry over any pullets which have proven to be confirmed layers, for if they are used to breed from they are likely to transmit this broody tendency to their offspring. It is desirable to have setting hens sometimes, but in these days of incubators and brooders they are less popular than in the old days, and poultrymen would like to breed out the broody traits entirely. Any amateur can make a start in this direction by selecting for breeders those hens which are the least stubborn in their desire to set.

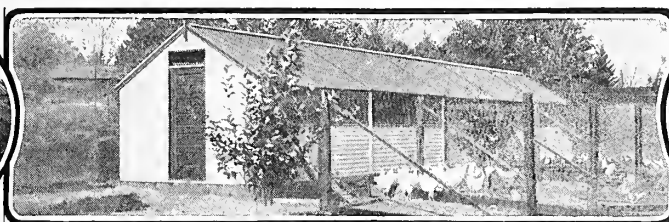
If early chickens have been raised for roasters, June and July are the months to sell those not needed for home consumption, prices being at the highest point. Many men and women with small flocks of hens belonging to the American breeds add considerable money to their regular incomes by growing roaster chickens, hatching them in January or the first week in February.

June is not too late to hatch chickens for winter laying, although they probably

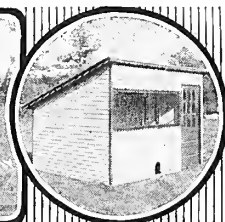


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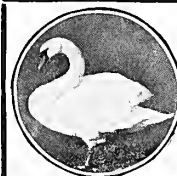
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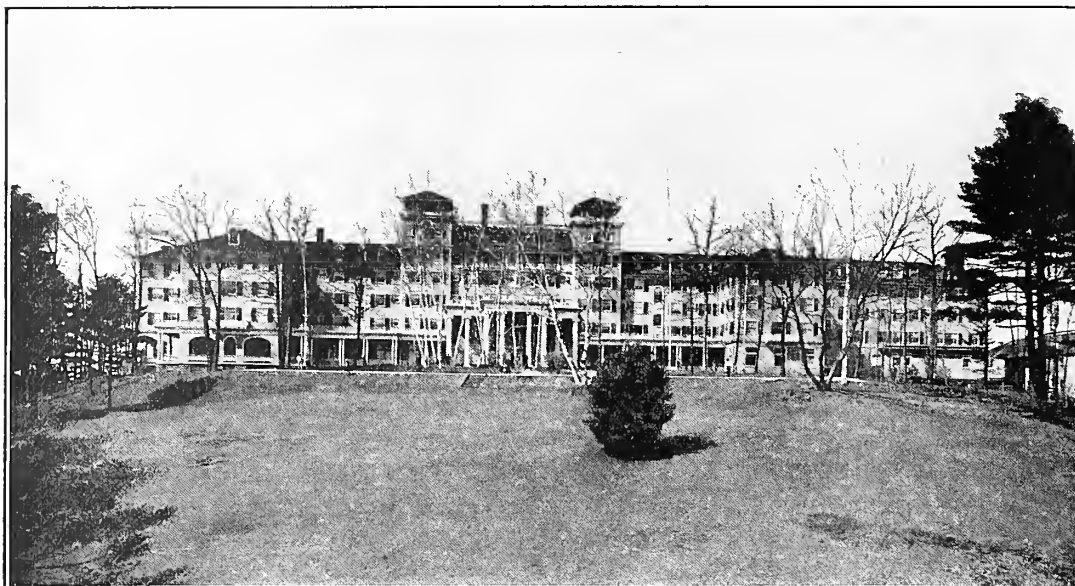
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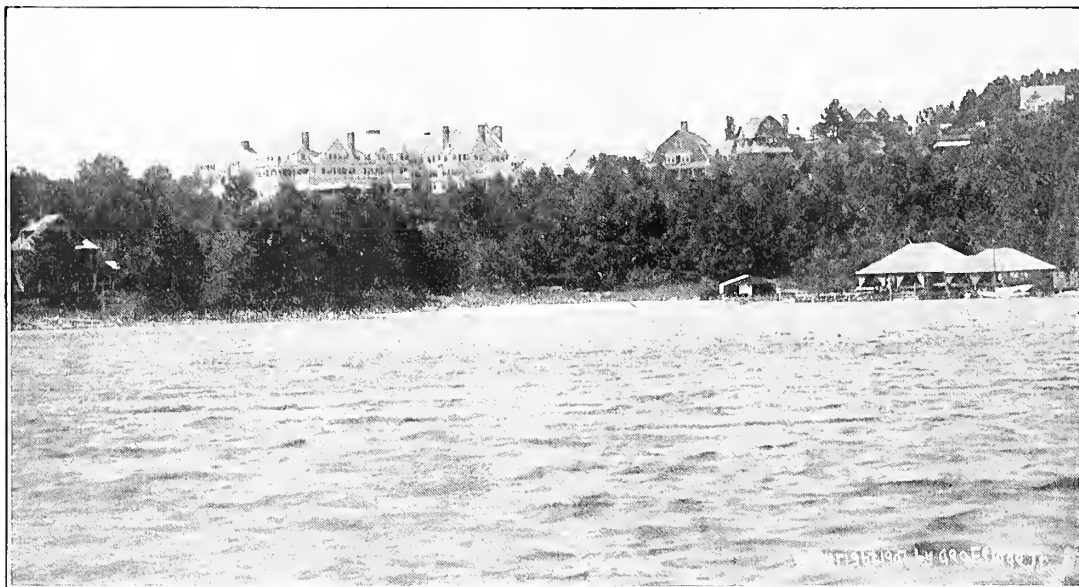
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will not produce many eggs until after New Year's, and they must be kept growing rapidly. It is perhaps the best month to bring out bantams, which are hard to raise before the weather gets warm. Bantams are becoming highly popular with professional men, as well as with boys and girls, and many flocks are kept as a source of recreation. Some breeds are very handsome, all have engaging ways, and a few kinds lay eggs which are large enough to use in the kitchen.

As hot weather comes on it is important to provide shade for the growing chickens, the ducks and the young turkeys. It is needed for the hens, too, but the turkey poults and the ducklings are almost certain to succumb to the heat unless they are sheltered from the rays of the sun. One plan, when there is no natural shade, is to grow sunflowers, corn or Jerusalem artichokes. The last-named will come up year after year when started and the fowls have so little fondness for the leaves that they will let the plants grow undisturbed in the poultry yard. Many people grow fruit trees in their chicken runs, and the plan has much to commend it. The trees provide needed shade and the fertilization received by the roots of the trees induces heavy fruiting. Probably plums and apples are the best fruits to choose for such a location. The excess of fertilizer in the soil is likely to make the peach trees too soft.

Chickens often develop an unpleasant fondness for the tender bark of young fruit trees and will strip it from the trunks unless protection of some kind be given. A little tube of wire netting around the trunk of each tree looks well, but a wrapping of burlap will serve the purpose.

It is also necessary to give the growing youngsters, as well as the laying hens, all the water they need to drink. When possible, the water dishes should be filled at least twice a day, as warm water is not very palatable, even to a hen. It is a fact, though not often realized, that the egg production is augmented by keeping the layers supplied with fresh, cool, water. There are several reservoir fountains on the market which make it easy to keep plenty of water before the birds, even though the attendant is obliged to be away all day.

The manufacturers of poultry foods sometimes advocate substituting growing feed for laying feed at this season, and it is quite possible that the change may stimulate the egg yield, which is inclined to fall off in June. Probably the amateur with a few hens will find it much to his advantage to feed one of the commercial dry mashers rather than to buy the various kinds of ground grains and mix them himself. It is important, however, that green food be given, whatever feeding plan may be followed. It may take the form of vegetables from the garden or it may be simply lawn clippings. The latter are excellent and may be dried for winter.

For the Unmannerly Dog

THEORETICALLY, a well-trained dog has no bad habits. He should be a sort of four-footed angel, minus wings, of course, but otherwise quite capable of maintaining a dignified place in the company of saints. That is the theory, but we must deal with the facts.

If your dog is a confirmed fighter, do not despair. Keep him at heel when other dogs are around, and if he shows any inclination to break away and mix things, switch him soundly. A few sessions with a dog whip will teach him to restrain himself, at least when you are about.

Another too frequent habit is chasing and barking at wagons, automobiles and pretty much everything else that runs, rolls, walks or trots along the ground. The sovereign remedy, if I may be permitted a "bull," is not to let the habit take hold. Failing in that, resort to the switch in the event of the dog failing to heed your command to stop. If he is an inveterate chaser, the kind that whipping will not cure, try the following method:

Get a leather "force" collar, which tightens and pinches the dog's neck when he pulls against it, or else a stout, ordinary leather one. Put it on him and attach about twenty feet of heavy cord. Get a good, firm grip on the end of the cord, gather the rest of it in coils held loosely in one hand, so that the dog will be kept as close to you as if he were on an ordinary leash, and take him out where he will be apt to see something to chase.

When he makes a break after a passing car or wagon, let the loose coils of cord go and brace your feet. Just as he reaches the end of his tether order him sharply to "Stop!" or whatever command you choose to convey your meaning. Coinciding with the word the dog will reach the limit of the cord, turn several more or less complete and totally unexpected somersaults, and learn a valuable lesson.

Many dogs, especially those which are kenneled outdoors at night, contract the habit of barking disturbingly at their own imaginations. This can generally be broken up by teaching the offender the meaning of the order "Be still!" and, if he does not obey after learning it, switching him. Some dogs are very stubborn about this barking trick, and require rather harsh treatment. Not long ago I had a barker case which required my going out to the kennel, fifty yards from the house, half a dozen times in a couple of hours. After the last trip, which included a really sound thrashing, the dog decided to yield. Now, on the few occasions when he barks at all, a word from the house silences him.

Apropos of barking as a bad habit, it may be said that it is usually possible to tell from the tone of the dog's voice whether he is barking at some real disturber or just because he has nothing else to do or is thirsty or hungry.

R. S. LEMMON.



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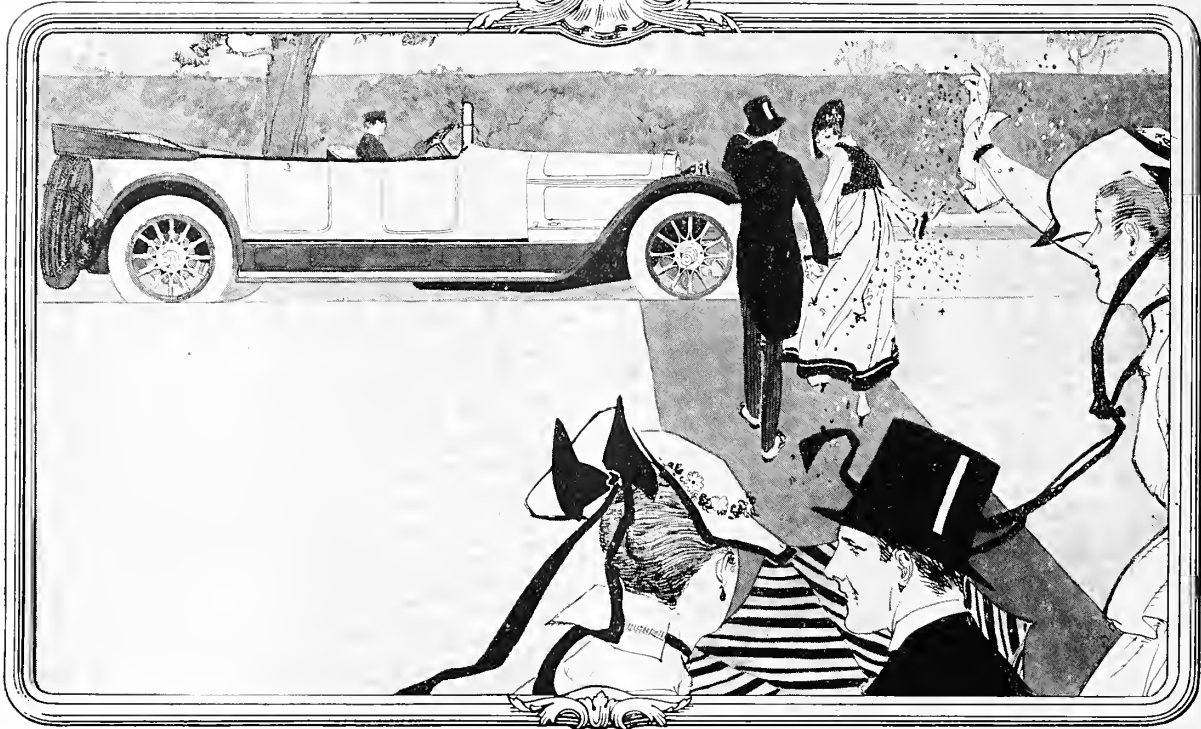


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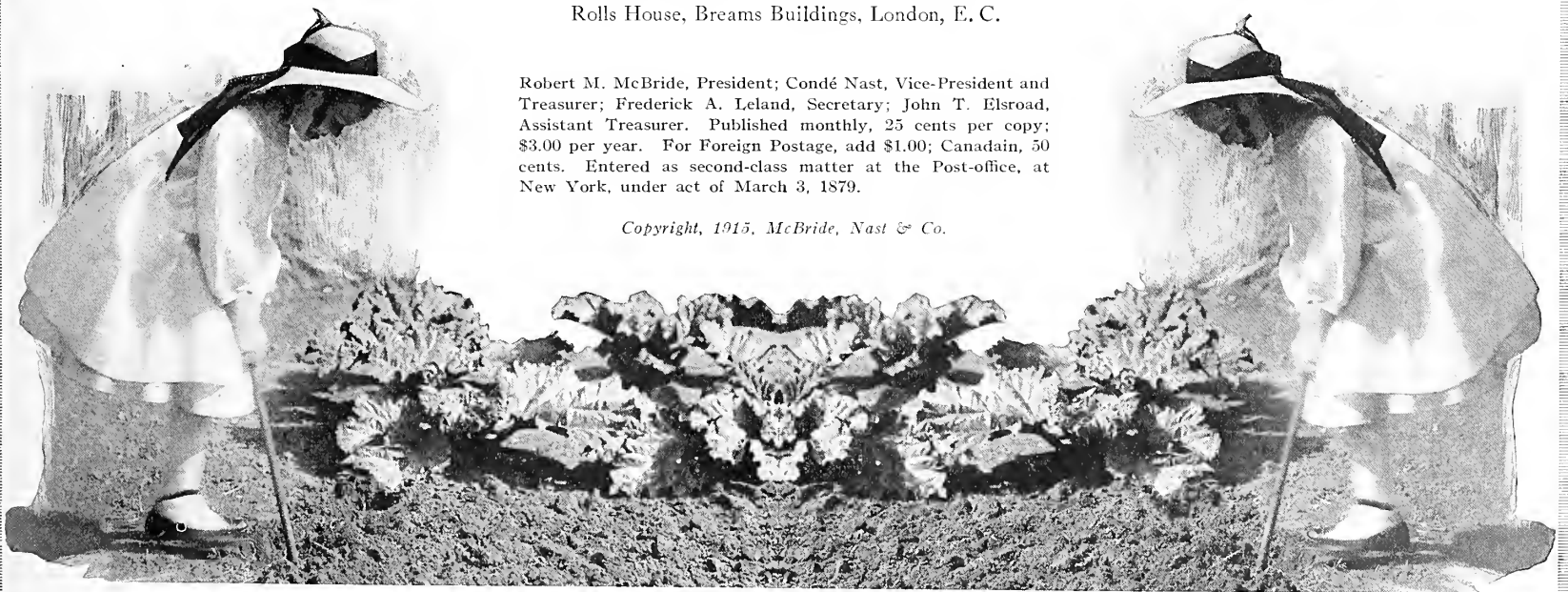
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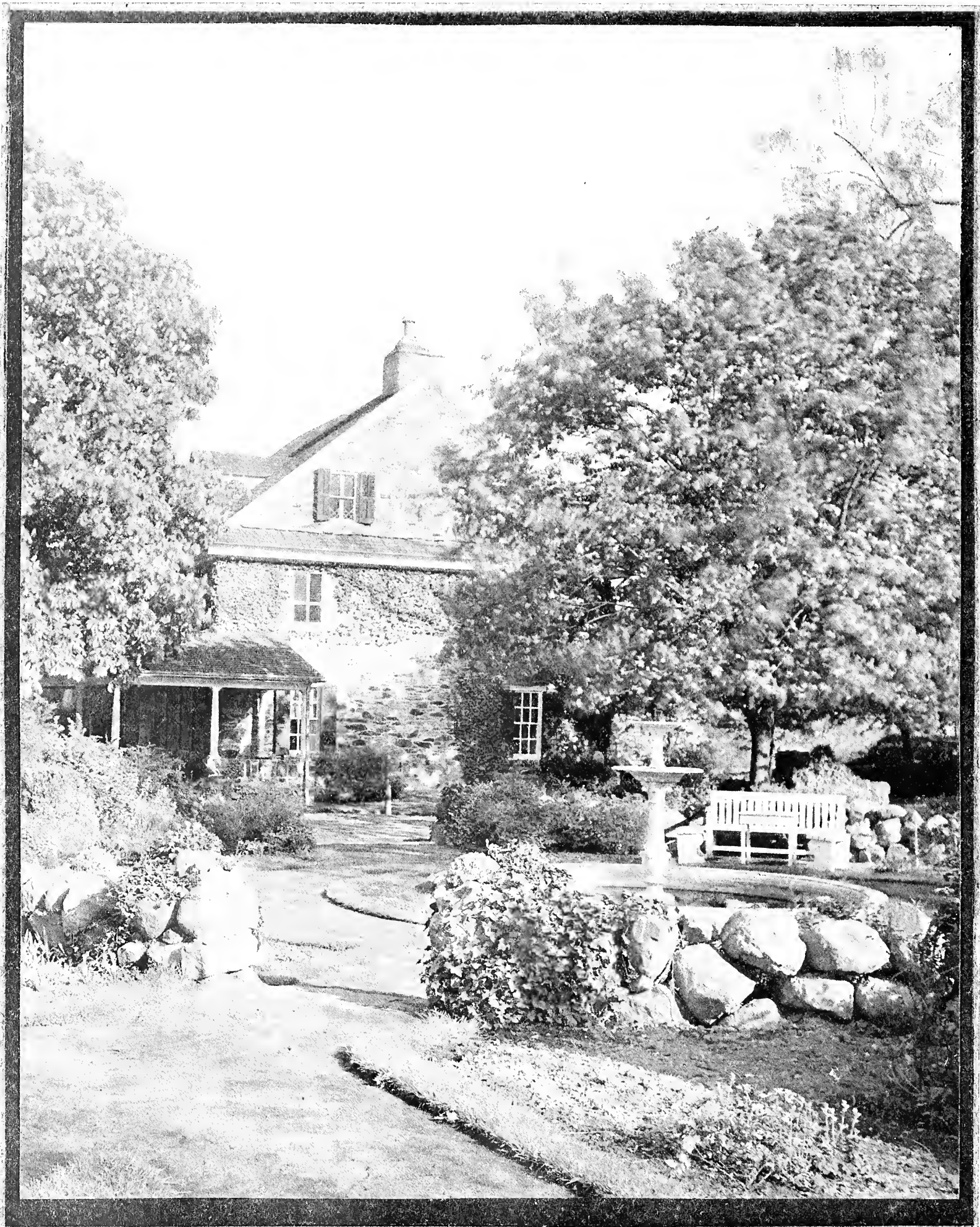
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The average farmhouse has to contend with the interminable reaches of the surrounding fields. Hence some sort of enclosure—preferably a wall of field stone—can keep the house lands apart, making the house and its gardens a distinctive unit. Even better is it to have a fore-court, as here, where the approach to the house is gradual. A pool or fountain, naturalistic planting, and a garden settee in a shaded spot, make the fore-court an achievement.



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In the design of a vacation house the type of construction and the consequent style of architecture will be greatly influenced by the surroundings. In this house, by using materials near at hand, the architect has approximated the spirit of the adjacent land. It is a product of its environment

CHOOSING THE SITE AND FITTING THE HOUSE TO IT—THE HOUSE THAT IS A PRODUCT OF ITS ENVIRONMENT—THE TYPES FOR SEASHORE, COUNTRY AND MOUNTAINS—ESSENTIALS IN SUMMER HOUSE PLANNING AND DECORATION

JOHN T. FALLON

TO really enjoy a summer's vacation one must own one's own house or camp in the country or mountains. Living at the summer hotel, now rapidly passing out of favor, or even in a house rented for the season, is unsatisfactory when compared to the delights of possessing even a simple camp or shack, which may be improved or changed from year to year to suit the owner's individual tastes, and where the memories of happy summers may accumulate.

Probably the first step towards acquiring a home for vacation use will be in the deciding of the general question of where to go. The choice may be made of one of four locations, the mountains or woods, the seashore or the country. It is true that in this decision personal inclinations will doubtless prevail, but each locality demands a different type of house whose merits and advantages must first be thought over.

Mountain life appeals particularly to those who seek a strenuous and rough vacation with complete isolation from the city and the outer world, and who are able to get along with fewer comforts and conveniences in their houses or camps. Conveniences are trappings of civilization whose cost greatly increases when they are transported to the mountain camp. The seashore home will be selected by those who are fond of sailing, boating and swimming. The invigorating effect of the salt air and the monotonous booming of the surf have, too, a wonderful thera-

peutic value to tired and jagged nerves. In deciding upon a seashore site, however, it must be remembered that the season is relatively short.

The great majority of vacation homes will be found in the country. Sites are here usually much more accessible than either in the woods or at the seashores, and there are a greater number of roads that may be used by the motor. It is a safer place for children, who need here little watching to keep them out of danger, while milk, butter and fresh vegetables are easier to be had. The season is longer, for the autumn is quite as beautiful and comfortable as the summer. The inconveniences of city life, such as the telephone and the railroad, are apt to be much nearer at hand.

The selection of a building site in the country is comparatively easy. The ideal site will have a few large trees to cast their cooling shade upon the house, a well-drained soil with sufficient fertility to produce at least a few hardy perennials and garden vegetables, and possibly an outcropping of rocks where a wild garden could be induced to grow. It would be accessible to the high road, so that continued rains would not necessitate motor-ing through hub-deep mud. Farmers should be near enough to bring dairy products and fresh vegetables for the table, while its nearness to a village or town would mean shorter hauls and consequently cheaper material when the time for building came. If a lake or stream was within convenient distance it would add



If the house is well sheltered, there is little necessity for a roofed porch; a lattice such as this is sufficient covering for the terrace



Distinctly a type for a pastoral region—an inexpensive farmhouse of good lines, with plenty of room indoors and on the porches. Alfred Hopkins, architect



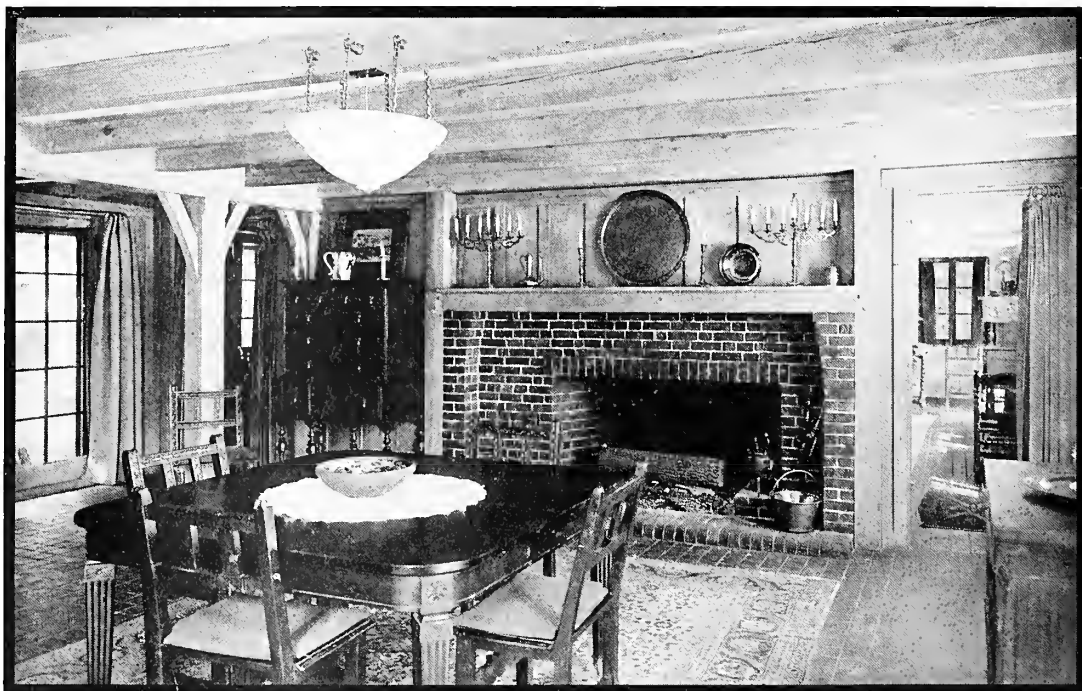
will be greatly influenced by the surroundings. Just as the protective coloring of animals blends in with the character of the country in which they live, so the house should reflect in its materials the tone and color of its surroundings. The use of the materials at hand has been equally operative in producing the mountain log cabin and the adobe house on the

the pleasures of boating and swimming.

The more practical considerations of water supply and sanitation will, after all, be often the actual deciding factors in the choice of such a site. Many an old farm house that is now occupied may be had for a nominal sum and with little remodeling turned into an attractive vacation home. There is a personality about some of these remodeled farm houses that new houses seldom attain to, while their original builders were very practical people, and what they lack in picturesqueness of view is often made up for by their convenience to high road or village.

The ideal mountain site is much more difficult to find. From a practical standpoint it must be, first of all, accessible for the procuring of supplies, while the first cost of building will depend largely upon this factor. The most picturesque locations and those with the finest outlooks are often prohibitive because of their inaccessibility. A situation near a stream or lake helps greatly to solve those vital and ever-present problems of water supply and sanitation. The inclusion of a cleared space gives an opportunity for a small garden, but cultivated flowers are an intrusion upon the boundless supply provided by Nature. A desirable site for the seashore home would be near a good bathing beach and, of course, a harbor or inlet for the anchorage of boats. Other and more practical qualifications that have been outlined before may be applied here with equal force.

In the design of the vacation house the type of construction and the consequent style of architecture, if we may call it such,



This dining-room is full of suggestions for the treatment of summer homes. Notice the unstained woodwork, the simple hangings and decorations. It looks cool, doesn't it?

sandy plains of Arizona. In the same way the former will always be the most appropriate type of house for the woods, while the latter is being used more and more as a prototype for seashore homes.

A great latitude of choice is allowed the home builder in a pastoral country, although the Colonial farm houses built of wood or stone come so instinctively to mind that it is difficult to escape entirely their suggestion or to wish to do something widely divergent in style. Indeed, so many old farm houses have been reclaimed of late years for vacation homes that they have almost begun to establish a type. Then, too, the Colonial



The type of moderate-priced house for the seashore, where the environment is that of sand beaches, pine woods and, in immediate surroundings, a well-developed locale. Frank R. Watson, architect

forms are so essentially adapted to the terms of simple construction that it is only in the more elaborate summer homes that a wide departure is made towards English or French prototypes.

Whether the construction be of wood, brick or stone will



The mountain home can be either of stone or logs, or a combination of the two, thus taking on the protective coloring of its surroundings



Porches are necessities. Fit them up so that you can live on them and eat and sleep if you will. They are the panacea for the rainy day

depend upon local labor conditions. Wood is always the cheapest structural material, but every year the proportion of brick and stone houses increases as the need for more permanent and substantial types of houses is more keenly felt. It is only in remote districts, where labor is cheap and abundant, and some is to be had on the building site, that this form of construction bears great chance of being used. But the charming old stone farm houses of Colonial days are far too exquisite not to wish that more of our modern houses were built like them.

In planning the vacation home the vital need to be kept in

mind is for fresh air, and every breeze that blows must be taken advantage of. The living-room sacrifices its importance to the porch, which cannot be too spacious or too carefully placed in relation to the prevailing winds and the finest views. Practically every phase of porch development is interesting to the summer home builder: the spreading and luxurious porches of the East Indian bungalow, the two-storied porches of old Southern mansions, the rainy-day porch with its protection from the wet, the dining-porch where the *al fresco* meal is an unalloyed pleasure.

In the summer home the need for privacy is less felt than in the more formal suburban house. To be able to plan one's porch where the utmost of air and view may be obtained without having to consider the formality of afternoon calls or the intrusion of unwelcome guests, makes greatly for the comfort of the house. So in the summer

home there is more opportunity to adopt the bungalow type with its wide and spacious porches. Verandas that encircle the house have many advantages. Their different sides make them comfortable at all hours of the day, according to the direction of the breeze and the position of the sun. Where the family is of good size or there is much entertaining there is usually a desire on the part of some to seek seclusion from the noise or gossip without going indoors, and with this type it is only necessary to withdraw to another part of the porch.

The second-floor porch is now-a-days generally used for a

sleeping porch and is planned to open directly from the bedroom. To be thoroughly comfortable for sleeping it should be screened, while casement sash are almost a necessity to protect one from sudden showers. My experience with country sleeping porches has been that the enjoyment they afford is largely dependent upon how carefully these facts were considered.

The rainy-day porch is not ordinarily made a part of summer homes, and in consequence a wet day is usually a gloomy one spent indoors. It could, however, be made very attractive if a little thought were put upon its planning and construction. Often one end of the living-room can be utilized. With a succession of broad windows or, if desired, casements opening to the floor, that would give a wide view of the landscape (for a rainy day discloses many beauties in the country that the bright sunlight fails to bring out), this feature might be attractive on both wet days and dry.

Dining on the porch is seldom possible, except in well-screened enclosures. Care should be taken to select a position protected from the rays of the setting sun, which are even more objectionable here than in an indoor dining-room. When screened

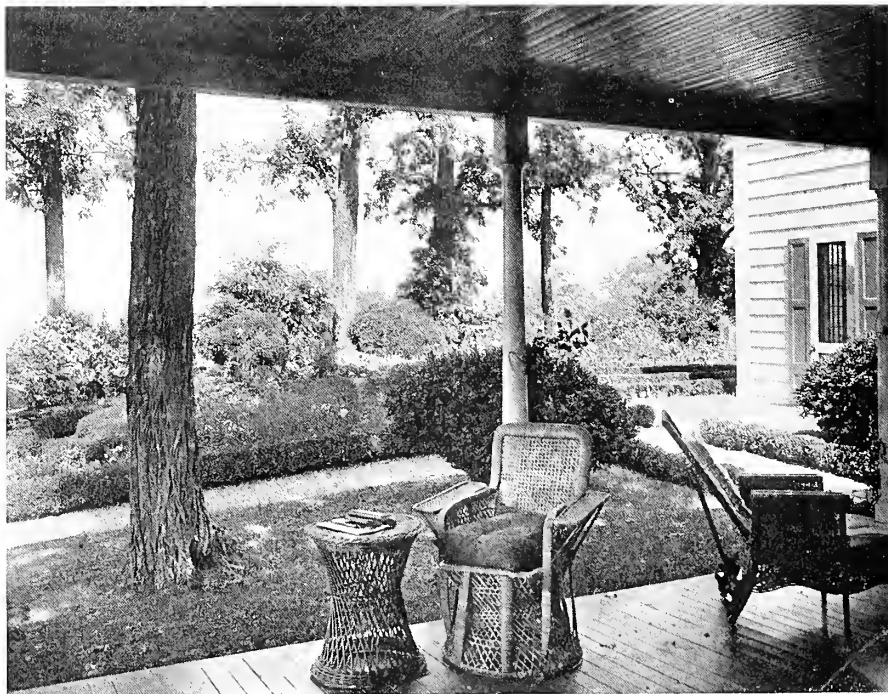
porches are mentioned the first pictures that rise to one's mind are the temporary and often hideous makeshift affairs that one sees so frequently, but there is no reason why the screening of the porch should detract from its appearance. Demountable

screens designed in well-proportioned panels with carefully fitted doors should be planned in connection with not only the dining-porch but in all places where screens are a necessity.

One fortunate feature of the summer home is its unstudied informality. In place of the dozen separate interests of the city house, there is a spirit of communal life that does away with the necessity for complicated planning. The living-room should be made large enough to serve the needs of the family as sitting-room, library, reception room, and even in many cases as dining-room. A huge and broad fireplace provides a fitting keynote for the decorative scheme and

in its lines may be made to express open hospitality and the lack of set conventionality. Its practical value will be appreciated most on damp days and evenings and in chilly weather, when its fire will be sufficient to dispel the interior dampness of the whole

(Continued on page 444)



The lack of a far-reaching outlook from the house can often be compensated by developing the garden—which is the foreground of one's view



This group includes the desirable features for a moderate-priced home in the country—a house commodious enough to accommodate a small family and its guests—a garden and a garage. The sight, moreover, is ideal, being removed from main road, having large trees to shade the house, and sufficient grounds for the children to play in



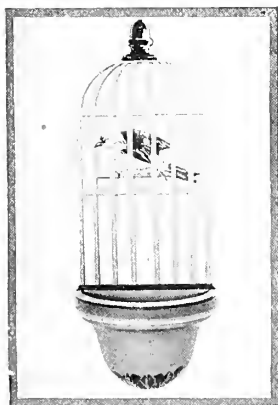


The garden living-room is the go-between of the house and garden, and consequently should harmonize broadly in style with both.
In a setting of this kind a tea house of this half-rustic, half-formal style harmonizes perfectly

Furnishing the Outdoor Living-Room

THE DESIRABLE EFFECTS OF 'SECLUSION AND SHADOW—
TREATMENTS FOR ARBORS, PERGOLAS, TEA HOUSES AND
PORCHES—SUMMER HANGINGS AND CUSHIONS

MARY LIVINGSTON



To hang on porch, or tea house wall, decorative flower baskets

set the styles even in modes of living. Thus it is of recent years our garden living-rooms have become such a feature. We all want

to get away from four walls when the days grow long and the evenings are soft. Romance lurks in the corner of a garden, and we have a little of the same sense of adventure we had as children under the propped-up sheet in the backyard.

The variety of outdoor living-rooms suits every purpose and pocket. There are the gardens of Italian and French formal planning, beautiful things to look upon and walk through; and old-fashioned flower



Some of the baskets are decorated with gaily-colored birds



The wall decoration here is a combination of lattice and rough plaster, the latter frescoed with flower wreaths and the furniture decorated with the same designs

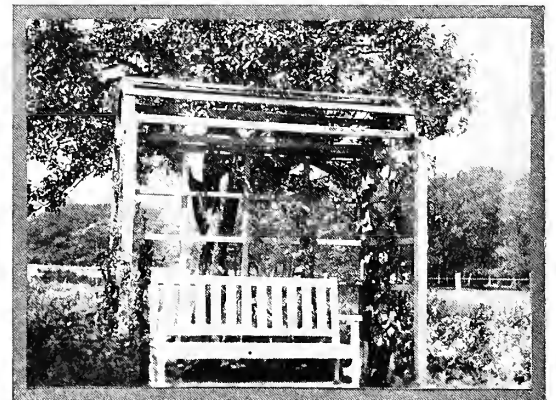
gardens of a joyous riot of color. It is from the vantage point of the garden living-room that these are most enjoyed. For the garden living-room is the go-between of the house and the garden, and consequently should harmonize broadly in style with both.

Those that are constructed as part of the house—the porch, the piazza, the sunporch, the outside living- or dining-room—may be furnished in almost the same style as the living-room itself. The

fruits on the table between meals; the insects besiege it, and also it is unpalatable when warm. Artificial fruits may be used as a good substitute.

Lattice walls bring within much of the outdoors. The lattice

walls may be covered with lattice work over which vines can be trained, or else rough plastered. An attractive way to treat plaster walls is with a decoration of garlands frescoed on, reminiscent of old Italian gardens. The colors can be those of luscious fruits and warm-tinted flowers. Such a decoration is particularly appropriate when the room is used for tea, luncheon or dinner. The decoration may be repeated on the table and chairs. At one end place a wall fountain of Italian design, repeating the colors of the fresco. As a table centerpiece use one of those majolica pottery baskets of fruit. This may be replaced at meal times by a low brass bowl of real fruit. It is not desirable to keep



A bench and a bower will make a sufficient garden living-room for the small place if properly placed, shaded and amid flowers



Before planning the permanent pavilion see to its outlook and its background. These are the essentials. The form of structure and decoration will grow out of them as expressions of personal taste

itself should be kept very simple, letting the vines do the decorating. The box in which the vines are planted should be the same color as the lattice and should not be featured, but made part of the background itself. Lattice laid at all angles and cut in all forms gives an undesirable ginger-bread effect.

A good color scheme for a lattice porch, if one desires to get away from the usual green, is to paint the lattice a blue-green, blue enough to harmonize with the green in the foliage. For hangings or covers use a dull orange. The furniture may be enameled in blue-green with stripings of dull orange. By placing in this room an orange bowl or a blue-green wicker basket the colors are accented.

The day of green chairs and Turkey-red cushions has gone by. Sun-fast materials in every tone have filled with much success a longfelt want. Wicker willow, reed and rattan are now the accepted kinds of furniture. In a partly-enclosed porch wooden furniture with rush seats may be used, as there the wear of the weather has not to be taken into account.

The second group of outdoor living-rooms comprise the detached tea house, the marquee, the little canopied pavilion, the terrace and the pergola. These bear more relation to the garden than to the house. Much care should be taken as to their situation. Choose the spot where the cool summer breezes may blow through and where there is some background of trees or shrubbery. Pavilions set in the middle of the lawn lose their *raison d'être*—seclusion and shadow.

A tea house may be very pretentious—of concrete or brick, or simple and inexpensive—of wood or awning. Its background may be the garden wall; in fact, there is no better place than the corner of the garden,



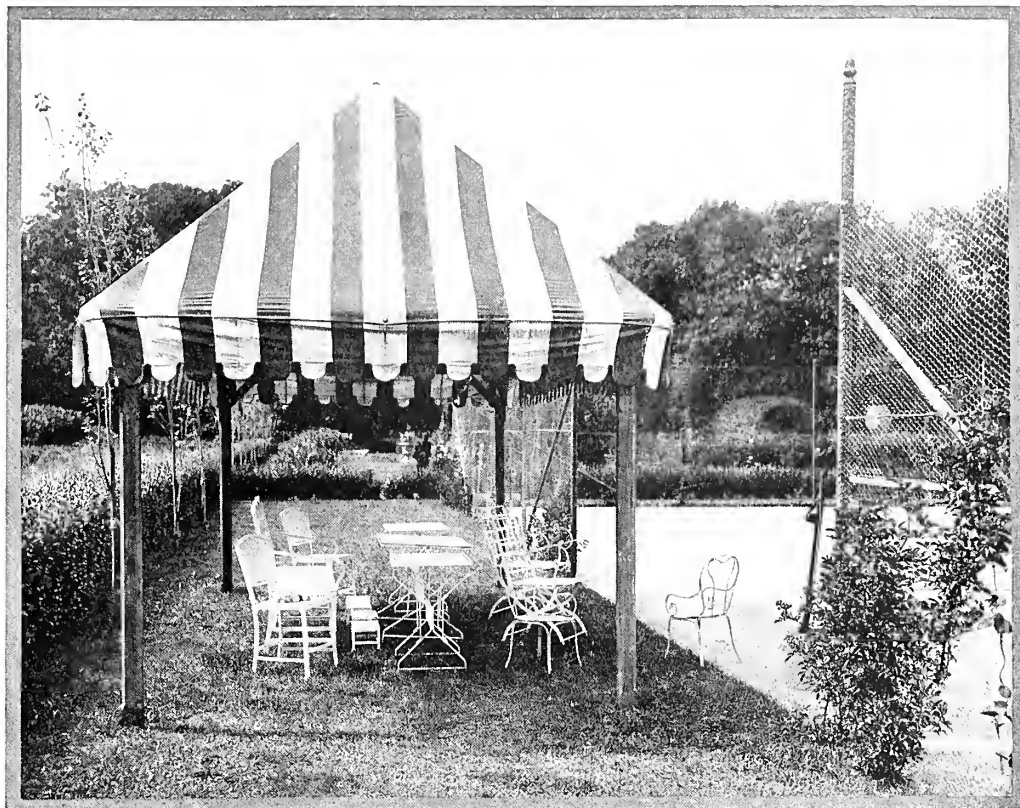
When covered with vines, a rustic seat such as this can serve as a little outdoor living spot that will be welcome in warm weather

rough brick let the furniture be of the same rough nature. The old-fashioned hickory furniture, while durable, is neither comfortable nor easily moved about. It finds its best place in the midst of flowers and shrubs, for it seems then to be a part of them. Natural oak or cypress is the best furniture for the tea house, as it withstands the weather and takes on a lovely gray tint, contrasting well against the red background of brick.

Another suggestion for the tea house is painted iron furniture of the kind so often met with on the Continent. This can be finished in a hard, durable enamel and decorated with some pretty French peasant designs. The tea things may match in design. Using with these some wicker furniture in green, an unusual and serviceable grouping results.

In a tea house it is always advisable to have settees along the back or on either side, to hold the occasional overflow of guests. Too many chairs are in the way and make a chaotic appearance.

On the walls and posts may be hung wall brackets for plants. These come in many attractive designs—a semi-circular base, zinc-lined, and, above, a plain lattice or a lattice decorated with a vari-colored parrot. These lend a note of charm, especially if an ivy is trained up the latticed back. Adding to



Use in the marquee iron or wicker furniture that will withstand rain and dragging about. The grass will be sufficient flooring if stools are provided against the dampness

affording a vista of the grounds. If the walls are of stone or

this Paradise of flower and fragrance could be flower baskets of wicker hung between the posts, or a hanging flower holder of lattice fashioned in the shape of a bird cage with a bird carved in the lattice, or, better still, a bird cage itself of painted wood, gaily decorated.

A marquee with iron uprights and a striped awning is simple
(Continued on page 464)



It is from the vantage point of the outdoor living-room that the garden can be best enjoyed. See that it affords a vista and that it is cool, comfortable and secluded

Restoring in Less than a Year

THE BEFORE-AND-AFTER CONDITIONS OF A SMALL NEW ENGLAND HOUSE AND THE INTERVENING PROCESSES—WHAT THE COMBINATION OF ENERGY, GOOD TASTE AND RESPECT FOR THE PAST CAN ACCOMPLISH—AGING A GARDEN

CAROLINE B. HALE

IF anyone has any doubts whatsoever in regard to restoring an old place in a short time, let him lay them aside with joy and bend his energies to the desired object and work with a will. I know whereof I speak, for it has been my happy privilege to have remade an old house, and made a garden that defies any one as to its age, and all in less than a year.



It was the usual type of New England house—splendidly built, large and roomy, but sorely in need of repairs and restoration

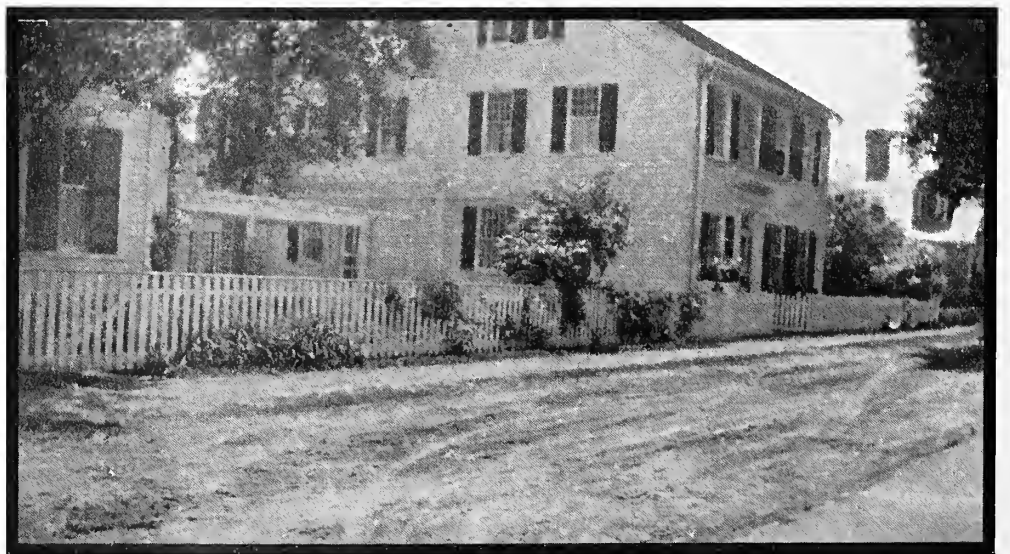
The house had stood many, many years, in an old New England fishing village with apparently no thought given it by its owner or tenants; it was built; that was all that was necessary; no thought of the ravages of time and the elements, and no kind of repairs ever wasted upon it. It was splendidly built, however, and therefore had withstood the wear and tear of almost a century, much of that time being unoccupied. It was large and roomy, many windows of many panes of glass, the floors of broad boards, eighteen or twenty inches wide, beautiful hand-wrought woodwork, a few fine old mantels, simple in design and well suited to the style of the house. The fireplaces, however, had been bricked up and the walls marred by unsightly stovepipe holes. The stairway is quite a feature. The sweep of the wall was really most graceful. The wainscoting is another evidence of old-time joinery, being made of very wide, solid boards extending horizontally along each side of the walls, one board occupying each space, surmounted by a simple hand-wrought moulding as a chair rail. There were many other interesting features, such as little closets in the chimneys, old lustre knobs and a few iridescent ones.

The question of restoring the house was not so serious, as one needed to change only a few things to make it livable. The first and most important change was the opening of two "blind" windows in the front of the house—

one on the first floor and one above it on the second floor.

The installing of bathrooms, lavatories, linen closets, butler's pantry, etc., was then undertaken. This we did by dividing one of the rooms on the second floor—half of which was made into a thoroughly up-to-date bathroom, the other half a closet room, containing a linen closet with protected shelves, a blanket and store closet, and two dress closets. At the rear of the house, over the dining-room and kitchen, was a very large room, a sort of tucked-away place, only half a story high. The roof here was raised, giving us two splendid bedrooms. The original kitchen, not being adequate for our use, was changed to a butler's pantry and a lavatory, the pantry opening into a large new kitchen, which we built, with a splendid cement cellar under it. Opening from the kitchen and pantry was a large porch, cement floor with drain, with an extra sink and laundry tubs, the whole fully screened, thus making service a delight. The old back, or rather side, hall and stairway were impossible for present-day comfort, both being very narrow and dark. Here we took out a partition, throwing the hall into a room, removed the solid boards which closed in the stairway, replacing them with a suitable balustrade; by replacing the narrow door, which had led into the old yard, with a reproduction of the original front door, it changed

the side of the house quite a little, and yet kept the spirit of the old place. At the foot of the three steps leading from this door into the garden we placed an old millstone, which had lain for nearly a century at the back of the house, as a kitchen step—it was a little more than a semi-circle and contained all the little grooves and roughness necessary in the old days, when it had ground the corn for its owner. So with knocking out a



The problems were not so serious: blind windows had to be opened, some of the rooms enlarged, and the lean-to roof raised

partition or two, the addition of three or four windows and the opening of the fireplaces, we about completed the alterations in the house. Then came the beautifying and the decorating—the walls were covered with simple, inexpensive paper, suitable to the Colonial style of architecture, and, with the woodwork painted cream-white, it really was a transformation.

The garden seemed the most hopeless proposition, as, in April, when we began work, the whole place was in such a state of neglect and decay that it would have discouraged the most energetic. The lot is situated at the corner of two lanes. Although one is called a street and boasts of a sidewalk on one side, fortunately there was only a path on our side, which ran along our old broken-down fence, almost buried by a wonderful old woodbine, a valuable asset, we thought, and which later was trained over and almost entirely covered the new fence; the other road is one of those quaint, charming lanes in New England that one reads about, and is known as The Lane. From time to time these lanes had had a generous sprinkling of ashes, gradually raising their level, and the lot became more sunken from the overflow and rains. The question of grading became important; to grade the lot to the level of the street would mean to cover entirely the brick foundation, giving an ugly, squatty appearance to the house and depriving the old cellar of light and air.

The advice of many, who were supposed to know about such things, declared then the only way we could prevent the water overflowing our place was to build a sunken cement wall which would extend a foot above ground and on top of this to build the fence. This was not only a big expense to consider, but would be most unsightly. Finally, after much thought and figuring, we decided on a plan, trusting it would come out right: to build the fence on the street level, which, when finished, was, curious enough, resting on posts two feet above the lot. The next thing was to remove the sod, which was of the poorest; then the rich, black earth that had been accumulating for nearly a century, and was from twelve to eighteen inches deep, was removed to the back of the place for future use; and after filling in with common soil, which had to be bought, and, finding the best grade, the rich earth was

put back, also the sod, which we had been advised to discard, but did not, being thrifty and knowing the price of sod. Along the front we graded to a foot of the street level and filled in under the fence with brick saved from an old chimney that had to come down—not with bricks and mortar, but with bricks piled irregularly on one another, with old Mother Earth filling in the cracks, and making necessary a step down from the street into the yard; in front of the fence was a broad flower bed four feet wide, which was in constant bloom from June to November.

On the Lane side of the lot we graded gradually to meet the street, so there was no perceptible grade, and along the fence (which was a plain, simple, Colonial picket fence with the green top rail) about two and a half feet wide was a sudden rise, or terrace, one might say, about a foot high; in front of this were



The garden had suffered from neglect. It needed grading and fencing in, and the soil had to be enriched before plans were set for flowers

placed large boulders, brought from a nearby beach, and filled in with small stones; this would keep the water from running in from the lane and gave us a broad bed for nasturtiums, which, before July, were trailing over the rocks and fence, absolutely disguising the little terrace and making that part of the garden a thing of beauty and constant bloom. On the outside of the fence we built up from the road to the fence, so that the grade

was imperceptible. To this we used ashes, covering them with six inches of good earth and sodded with some of the much-scorned sod from the old place, but good enough for wagons and other vehicles to pass over, and with grass seed sown now and then the lane was none the worse for the operation. With the wonderful growth of scarlet runner and nasturtium peeping through and trailing over the fence it was altogether charming.

We next turned our attention to the laying out of our garden, arranging beds for flowers and sodding around them. We knew nothing about gardening—which flowers require sun and which shade, or how to plant—but being fond of flowers and determined to make the old place beautiful, we left no stone unturned that would help us. With the help of seed books and advice from friends and neighbors we went to work. We did not do the actual spading, as that was too hard work for women,

(Continued on page 445)

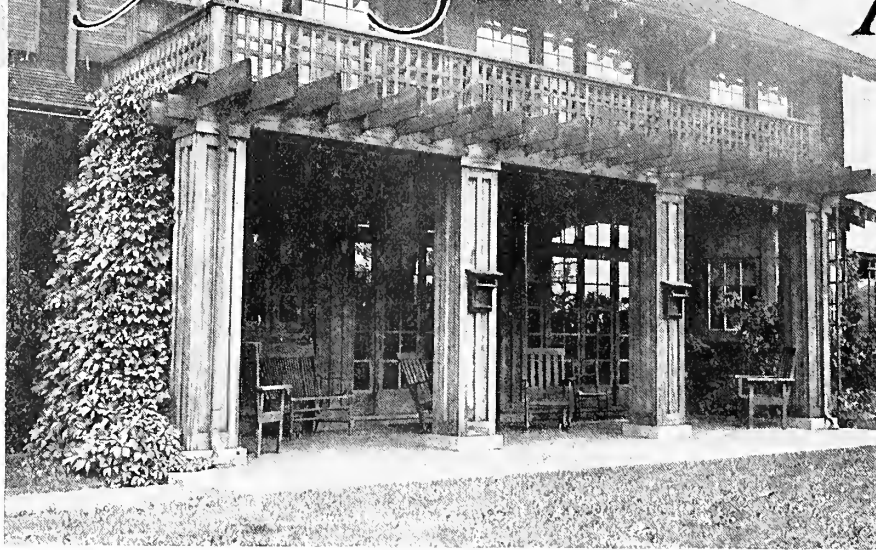


And this was the result! A pergola, rambler-covered gate, a seemly fence, a flower-bordered walk—all accomplished between October and June

Simplicity in a Suburban Home

ESTHETIC EFFECTS GAINED BY SIMPLE SURFACES AND STRAIGHT LINES IN THE HOME OF

IT would seem that there are moral as well as esthetic qualities in good building, and the Pattison house is, first of all, good and sincere in its construction. It is of unstained cedar shingles that grow soft-toned with age. The beams of the



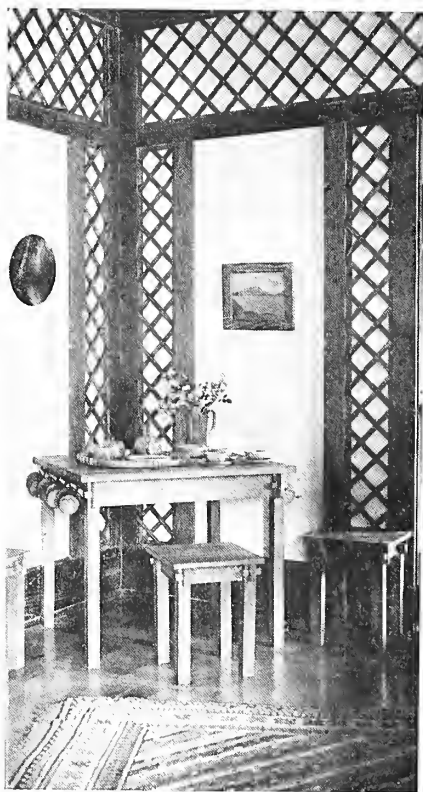
There is no fancy detail about the porches or the roof. The beams are left to show and are uncut and untrimmed

FRANK A. PATTISON
AT COLONIA, N. J.

ANTOINETTE REH-
MANN PERRETT

its lack, while, on the other hand, with it you can make brilliant use of the humblest materials.

The Pattison house has a low, broad-stretched look. Part of this is due to its general dimensions, but it has also used other means to obtain this effect, which may well be



The trellised walls of the reception room show the decorative possibilities of the straight and vertical line in that treatment

overhanging roof are left to show and are uncut and untrimmed. The door and window casings are as simple as they can be. The sashes are filled with small panes of ordinary glass. There is no fancy detail about the porch cornices, only the 2-inch strips on the post casings might be called decorative. Inside all the door and window trim all the mullions and transoms are made up of straight wooden strips, and, continued along the walls; they give them their sole decorative treatment.

Some people have come to misunderstand the virtues of simplicity. They try to make a virtue out of mere

suggestive to much smaller houses that are often hard-put to discover ways and means of looking low and in good proportion within the scope of their arbitrarily-fixed dimensions. One of the chief ways of getting this low appearance, aside from the general dimensions, is to have a simple, unbroken roof line without dormers and with deep eaves, as here, where the roof lines come down to a level with the window tops and where the gable ends extend well out. A second way is to have broad and simple fenestration, and still a third is to have a terrace about the house. Here the front terrace is broad and low, like the house itself, but if a simple terrace is not sufficient for a house, a well, a decorative balustrade or low piers connected by hedge plantings will often have an almost delusive way of enlarging and broadening it. The low, unornamented terrace here is in excellent taste and proportion. It is some 15 feet wide with a path across it, and it is just three low steps above the driveway. The steps are as broad as the entrance porch, which adds to the feeling of lowness.



Straight lines give the living-hall an air of simplicity. Here the woodwork is stained brown and the panels are filled with a dull, deep gold, Japanese burlap

plainness. Ugly plainness is just as bad as ugly over-ornamentation. The vital thing is to have an intelligent understanding and feeling for the fundamental laws of design, and then to use them to express your conception of a home idealistically. All that is praiseworthy and interesting in this house has been attained through an esthetic appreciation of the possibilities inherent in simple surfaces and straight lines. That is, after all, the secret of good design in building. No amount of ornamentation, no amount of labor and expenditure, can make up for

They are decorated at each end with a low vase on brick foundation piers.

These vases illustrate not only the spirit of the house, but the social life of the colony. They were made of concrete and Volkmar tiles by a friend of the family, an artist, an amateur at vases. As the friend came from New York for a week-end now and then, the vases were not made in a day, and when they were finally finished, the whole colony, children and grown people, came to celebrate their unveiling. It was called Vase Day.

There were poems on vases, essays on the history and meaning of vases, on ancient vases and modern vases, on tiles and the uses of concrete. Everybody in the colony had studied up vases in one way or another. It fairly seemed as though the two vases had produced a liberal education for themselves and their kind in the entire community. It is good to make much in this way of the spirit of things, to symbolize for both children and grown people with parties and unveilings the work and meaning that we put into our household things and to connect them with the thought and spirit, the art and labor that have always in the whole history of the human race been given them.

As for the plan of the house, there is a hall in the center with a drawing-room on one side and a library and a dining-room on the other. The staircase is not only an important feature in the living-hall, but a more or less decisive factor in the entire plan of the central part of the house. It has been made to run up to form part of a long middle corridor with bedrooms on both sides of it and bathrooms at the ends. In doing this, space was left behind the staircase in the center part of the first floor for two small rooms that are used as a kind of office-study and



Among the many attractive points of the drawing-room are the elevation of the floor and the bow window. The woodwork here is black and the paper a deep green

The office-study is connected with the drawing-room platform, so that when this platform is used as a stage, it makes a convenient entrance way. Its charm, however, lies in the fact that it is a garden room, with two large transformed and mullioned double glass doors leading out upon the low garden porch. The small tele-

telephone room. The staircase, after the first few steps, which leads to a corner landing, runs parallel to the front entrance along the long side of the room. Directly opposite to the front door it forms a second landing, under which there is a passage which connects by glass doors with the office-study beyond. This passage also opens up a fine opportunity of using the space beneath the stairs for a coat closet and lavatory.



The "Madame Butterfly" window looking out from the dining-room over the garden has the characteristic Japanese sliding windows and low platform



The staircase, a decisive factor in the plan of the house, runs up to form part of a long middle corridor, along which, on both sides, are bedrooms

phone room beside it is directly connected with the hall and the dining-room. Beyond the dining-room there is a butler's pantry, which is the only passageway between the main house and the service wing. This wing consists of a kitchen, pantry and laundry on the first floor, two servants' rooms and a bath on the second. The main bedrooms of the house are above the drawing-room and have glass doors leading out upon an uncovered porch.

Although the family numbers only four, from the very plan with its ten bedrooms,

with its special service wing, not to mention the numerous first-floor rooms, the house was clearly designed for generous hospitality. A great many country houses of its size are not at all helpful to the builder of small suburban homes, but this one is full of suggestions; suggestions, too, that do not lead astray into impossible longings, but help to proper characterizations. By a small suburban home we mean a house, let us say, that has to be built on a 50- or 60-foot lot, or that can have not more than 1,600 square feet of floor space for the first floor. These houses are now usually designed with a large, oblong living-room. Ten years ago this large room seemed a step in the right direction, but sometimes it seems to have become stereotyped. A room, let us say, 38 feet x 20 feet—and it is possible to gain it even with a respectable dining-room and kitchen in a floor plan of 38 feet x 38 feet—gives a chance for a remarkably interesting characterization of the family life. A living-room has no right to be uninteresting. Yet ever so many homes are being built to-day with uninteresting oblong rooms with a fireplace and glass doors on one long side, a great opening on the other, and with windows on the front and back. This has now become, in a way, the conventional living-room. Sometimes it is made distinctive through fine furnishing or through good proportions, but where it is uninteresting it has been made so not only through lack of individual architectural treatment, but of any deep and underlying purpose, any imaginative insight and understanding of the lives the owners wish to live there.

In the Pattison house are three rooms that well illustrate three distinctive characterizations of a main living-room. There are other possible characterizations, to be sure, but here are three: the living-hall, the library and the drawing-room.

The main room of even a small house may well be a large living-hall, lighted by a transomed and mullioned glass door that serves as a front entrance, with a decorative flight of stairs occupying one side of the room, under which, in a smaller house, might be a passage into the dining-room, with a fireplace at one end and an artistic window at the other. A living-hall with interesting architectural features, very beautiful in coloring, all gold, with brown woodwork like this, of good proportions, with interesting wall treatment, sparsely furnished, with very little need of pictures and ornaments, can be a very useful and delightful room. It is a room that children can amuse themselves in with impunity and freedom. In Japan children are said never to be naughty, because the houses give them no cause to be. Many men who live active mental lives in their work love this kind of a room to come home to. It is a room where they can sit and smoke by the fire-side without having any shut-in feeling. It is a room that adapts itself readily to dances and all sorts of receptions. It is, too, a room that takes beautifully to all sorts of festive floral decorations.

Then there is the library, whose one wall you can see

through the open door in the photograph of the fireplace, a room with book-lined walls and intimately-loved pictures, of easy chairs, reading lamps, and a low, cozy fireplace. To some people the very idea of home centers in such a book-lined room.

The drawing-room, with its platform for the piano and the interesting spinet, has a very simple and effective suggestion for a living-room that is to be a social room in a family that loves music and the dramatic elements of life. Just two steps up, and yet what an element of interest it adds! The four-sided bay window, with its transoms and casement windows, with its cushioned seat, shows the kind of a bay window that can easily be used with small-paned sash windows in a harmonious relationship. The main room of the house should have some kind of an interesting window, and here it has the best possible position at the very center, so to speak, of the stage.

How many windows there are that look out upon the world like a hole in the wall, stripped of reserve and romance! How many houses there are whose lack of composition and unity in their fenestrations makes the windows seem to be carrying on a civil war upon the walls! The Pattison house has reserve and the discipline of good breeding in its windows on the courtyard driveway, and yet, if you will notice, there is variety even here. Good fenestration does not mean monotony. The front entrance is made up of a transomed and mullioned glass door. On either side of the porch there is a small double casement. There are double windows on the projections of the main house, and on the first floor all the windows have transoms, although the second-floor ones have none. This making the windows higher on the first floor than on the second is quite a pronounced tendency of our recent architecture. When it comes to the garden side of the house, the fenestration is not so reserved. It does not have to be when it faces the garden! Yet, mind you, it has not lost its sense of composition! There is, then, the four-sided bay of the drawing-room at one end of the garden side. Under the garden porch there are two transomed and mullioned double glass doors that make the small office-study almost an outdoor room. The small telephone room has a high-backed settle with double casements above it, while the garden window of the dining-room is a very interesting "Madame Butterfly" window with sliding sashes and a low platform. Here is a window,

suggested by Puccini's opera, full of Japanese tradition, charmingly picturesque, and yet in harmony with the simplicity and the decorative interrelationships of vertical and horizontal lines that make up the panel-like treatment of the walls.

There is little need to explain the decorative effect of these horizontal and vertical strips. It is clearly shown in the photographs of the fireplace and the staircase. Notice, however, that it is this same scheme that holds true in the trellis room, and that the
(*Cont. on page 447*)



Wicker and willow furniture make the porch a comfortable resting place for the summer day. The tiling of the floor is at once cool and easily kept clean

Your Saturday Afternoon Garden

SOWING SEEDS NOW TO TRANSPLANT NEXT MONTH FOR FALL AND WINTER CROPS—GARDEN PESTS AND HOW TO FIGHT THEM—THE CARE OF CROPS IN JUNE

D. R. EDSON

IT is one thing to hurry home from the office on a balmy spring afternoon, to get in your first planting of beans, and to put in a trellis for the rapidly growing peas that are trying

to get away from you. It is quite another to bring yourself to keep up with your garden schedule and to cultivate and plant on a sweltering early summer afternoon.

But there are a number of things that must be thought of and attended to now if you expect to enjoy your garden to the full during the autumn and winter, or if you hope to enjoy salads and cauliflower next August

the time to set them in their permanent positions and, therefore, require much more space than seedlings sown outdoors in flats, which are transplanted once before being set out. They should

be given from 3" to 6" each in the row to make strong, stocky plants. Therefore four or five seeds to the inch will be plenty. If the soil is dry, to make sure of good germination, take your hoe and make a deep furrow the length of the row the day before you expect to plant and fill this with water, letting it soak away over night. This will put the ground in excellent condition for planting and make it

moist enough to insure prompt and strong germination. Be sure to tag each thing so used, otherwise you are likely to have things most annoyingly mixed up by transplanting time. With the back

of a narrow hoe or with the edge of a short board press the seed down firmly into the drill before you cover it. Then cover with a quarter of an inch or so of moist soil and firm lightly as before. Do not water the surface of the soil after planting. If the ground is so dry that water is necessary, apply as already directed. Watering on the surface is seldom done thoroughly enough to wet the soil to and below the seed.

At this time of the year, in properly prepared soil, germination should take place within a few days, particularly with seeds of cabbage, cauliflower and Brussels sprouts. The little seedlings are apt to be troubled with the flea beetle, a small, hard-shelled black beetle which you will recognize readily. Keep a little tobacco dust on hand and sprinkle the plants lightly with it a few days after they are up until danger from this pest is past. Even where the seed has been sown thinly thinning out will usually be required. This should be done as soon as the second or third leaves appear.

In addition to these crops, which are all to be transplanted later, there are a number of succession sowings which should be made now to keep the garden up through the latter part of the summer.

(Continued on page 461)



First process in planting beans and similar crops: prepare the ground finely and mark out with shallow drill

and September, and beets and carrots and oyster plant next January and February. During this month, also, the various garden pests, in the form of insects and diseases, will begin to put in their appearance, and you must be on the sharp lookout for them. In most instances fighting them is rather hopeless if once they get a good start.

One of the most important jobs for some Saturday afternoon, late in May or early in June—better put a red circle around May 29 and June 5 on the calendar—is the sowing of seed for plants to transplant next month for fall and winter crops to fill in the spaces that will have been left empty by your early crops of beets, peas, spinach and lettuce. A package each of the following will be sufficient for the average-sized home garden. The varieties mentioned, while perhaps there may be others of similar type as good, will, in my opinion, be found as satisfactory as any: Brussels sprouts—Dalkeith; cabbage—Volga and Savoy; cauliflower—early snowball; endive—broad-leaved Batavia; lettuce, loosehead—Grand Rapids; heading—big Boston.

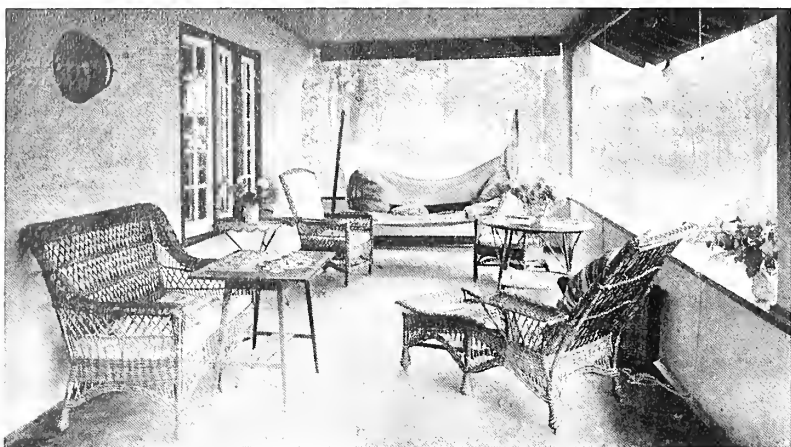
Select some spot in the garden where the ground can be freshly forked up and prepared in a narrow strip. Usually where the first crop of lettuce has been used will make a good place, and will give about the desired amount of room. Prepare the ground finely, mark out a shallow drill and sow the seed of each sort thinly. These plants will not be transplanted until



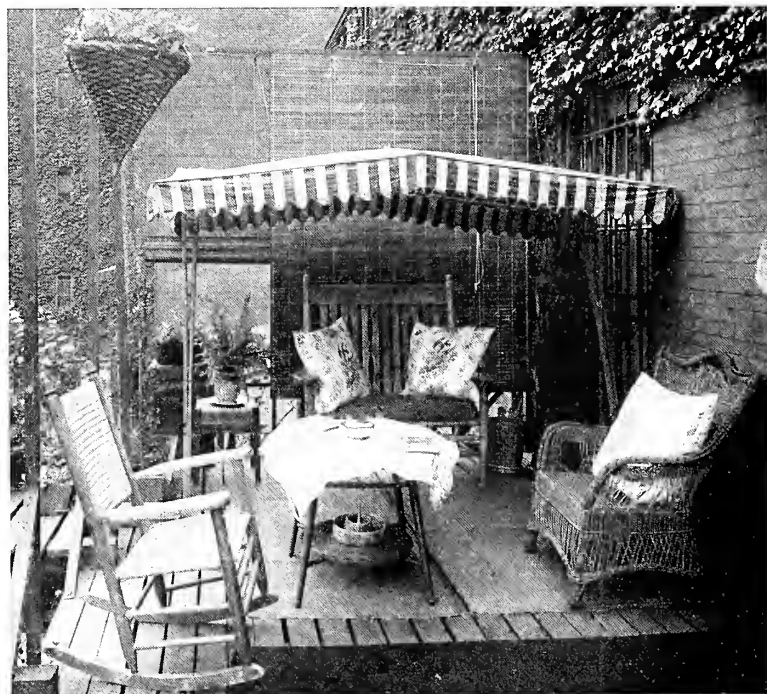
Second process: sow the seed thinly; with beans see that the eye is down, press the seed down firmly



Third process: cover one-half to two inches, press the soil down gently with board or foot. Avoid surplus moisture



Where the position of the house gives it seclusion and privacy, there is no need for awnings save to keep off the sun

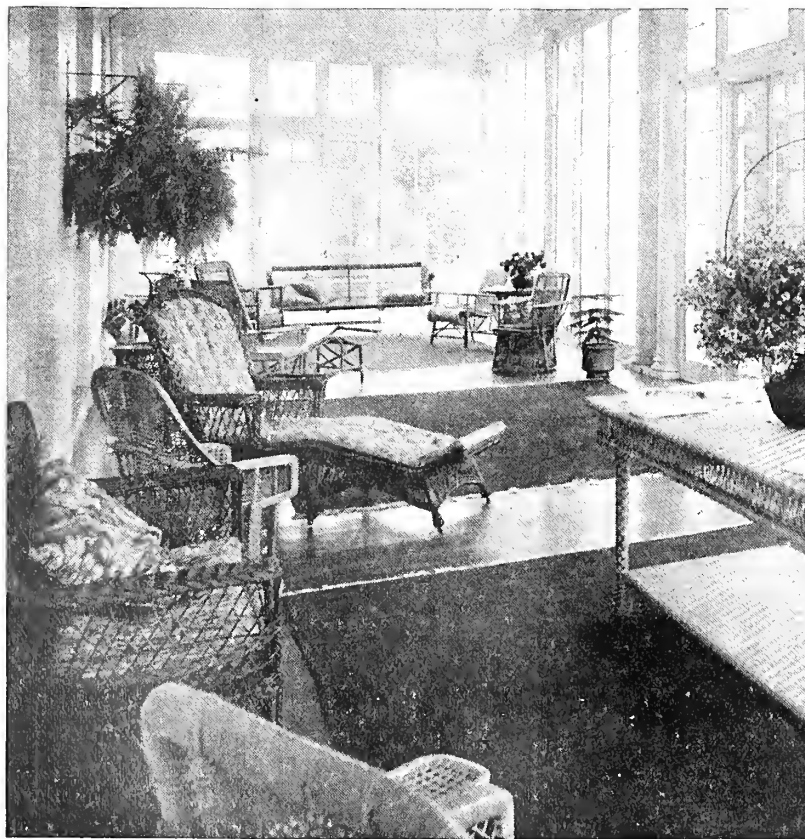


A city roof leveled by a platform and fitted up for outdoor living. A rug, screens, wicker furniture and plenty of flowers and plants lend the country similitude

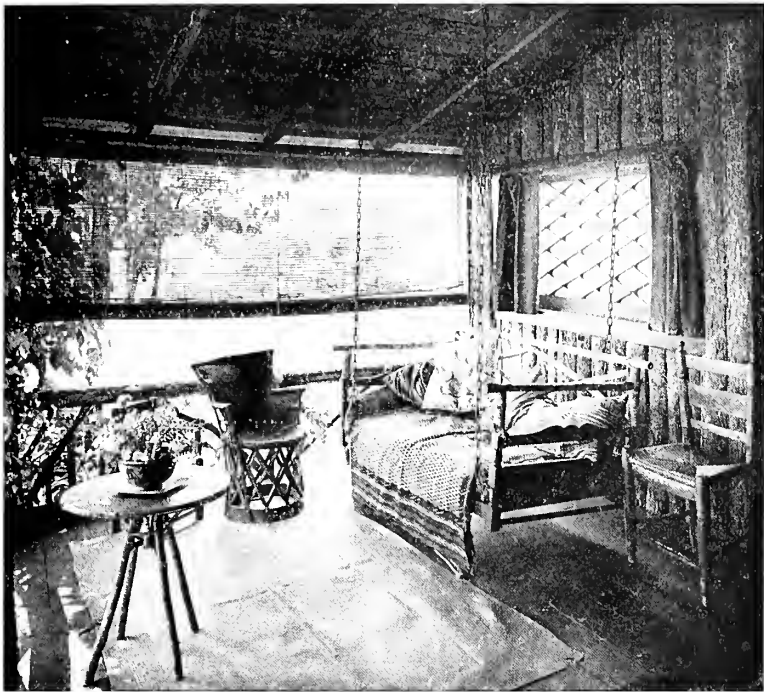


Venetian blinds used behind screens or glass partitions keep the porch cool and secluded without shutting out all of the outside world

The Porch as a Place for Out-

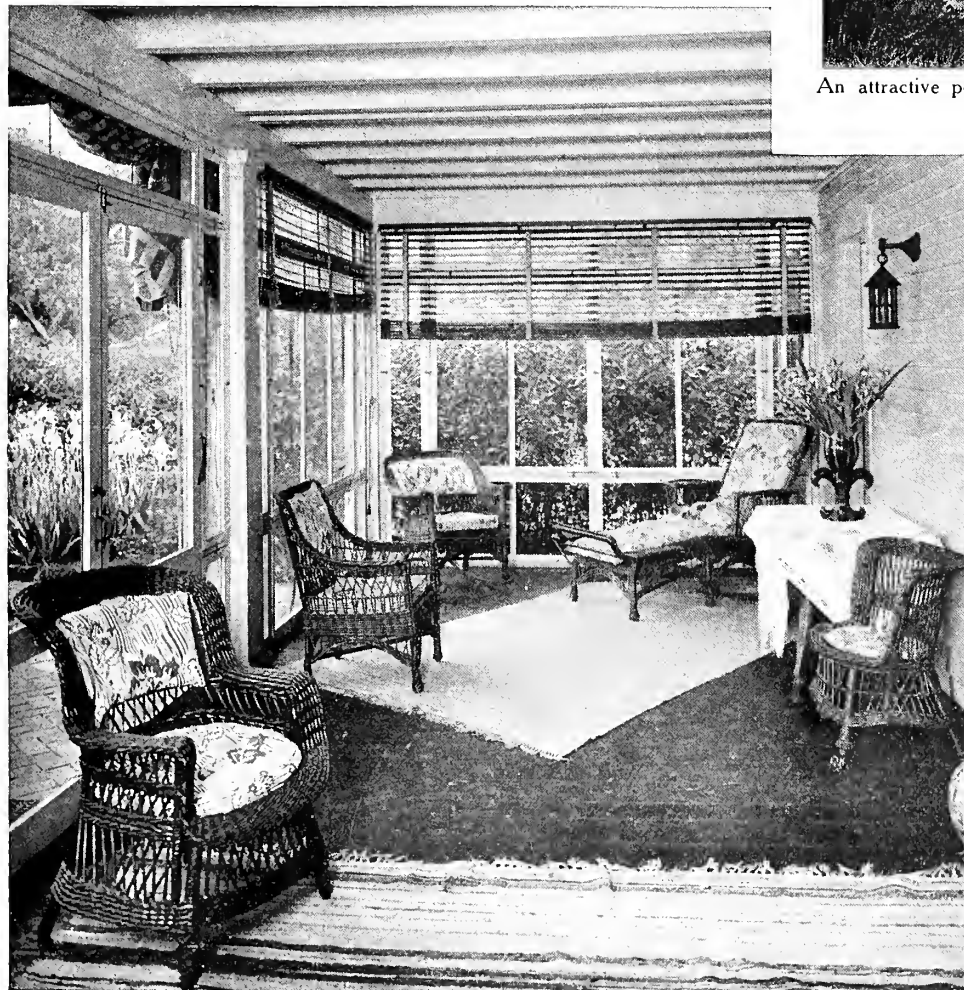


Wicker and rattan are the most serviceable types of porch furnishings. Coming in a great variety of shapes, their use is equally diversified. Moreover, they need not be stored for winter, since they generally fit well into decorative schemes indoors



Rustic furniture has the spirit of the mountain camp, and for such porches it has no equal. Bamboo screens are also always advantageous in these locations

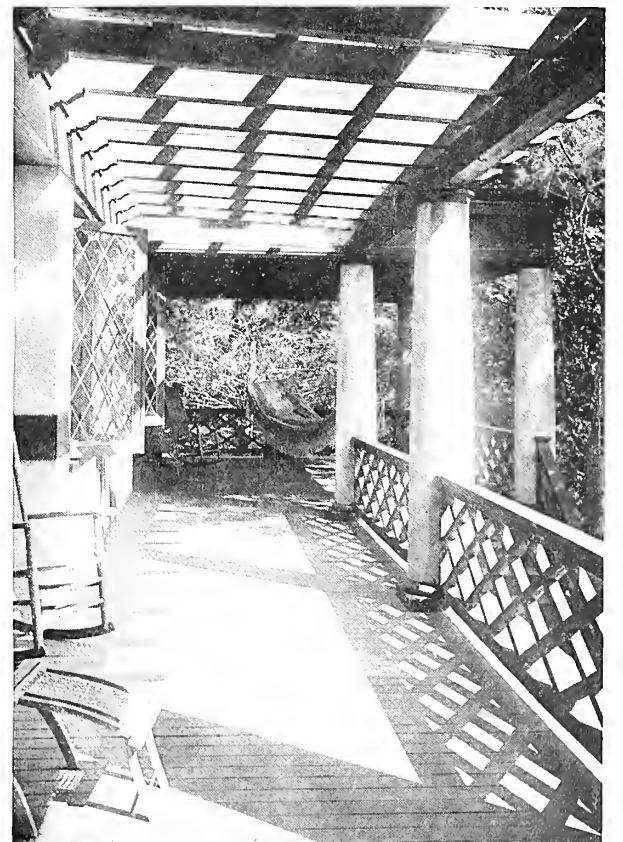
door Living in City and Country



A note of individuality can be lent the porch by upholstery in one fabric. On this porch is shown an indispensable piece of furnishing—the steamer chair



An attractive porch in the making. When the vines have covered the trellis and the shrubbery filled out, the result will be striking



If the porch is large, create a center for living in one corner that is well shaded and can be screened off for privacy



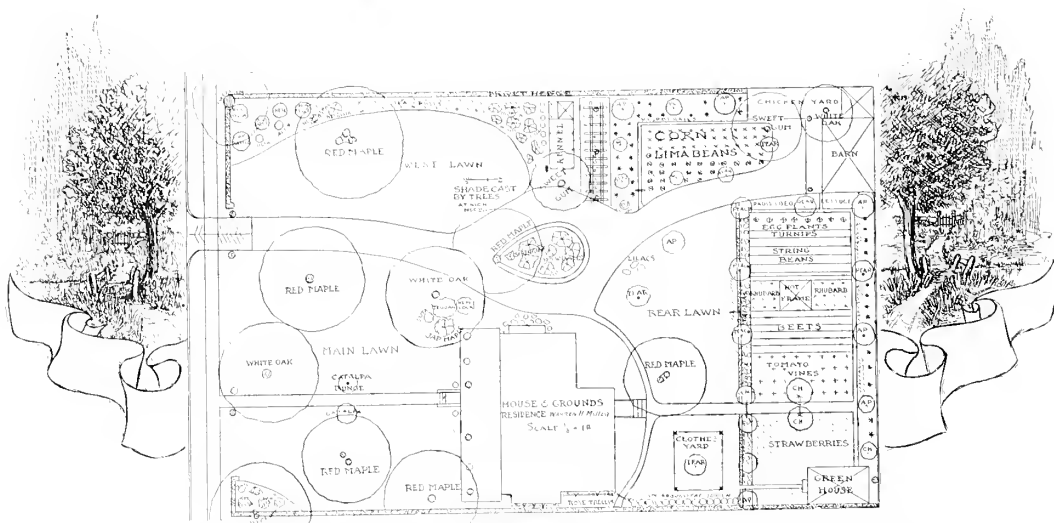
The Dutch Colonial type of house needs a site on some sort of slope. Hence the necessity for grading that would give this house a dignity and imposing massiveness. The drive-in can be seen to advantage, and the beginning shrubbery

My Suburban Garden

HOW THE GRADING WAS DONE—ADDING A BARN—THE PROBLEM OF THE DRIVE—SETTING SHRUBBERY

WARREN H. MILLER

AS you will recall, when we carved out our beauty spot from the raw forest we had everything to build, from the ground up, and this included even the soil for the front and rear lawns. No old field was ours, mellowed and grown to field grasses, needing only turning under and sowing with lawn seed, but the soil itself had to be



This is the completed plan at the end of three years—quite a change from the original young forest. Note the arrangement of the drives and paths

prepared even for grass. There was considerable lawn expanse, altogether some seven thousand square feet of it, and our means would hardly permit more than two inches of top soil spread over the area—at \$1.50 a load! And this was not enough; not nearly enough, with our forest soil underneath, for the leaching action of the rains soon in-

corporated both soils and soured it all, so that the grass died under the first hot dry spell.

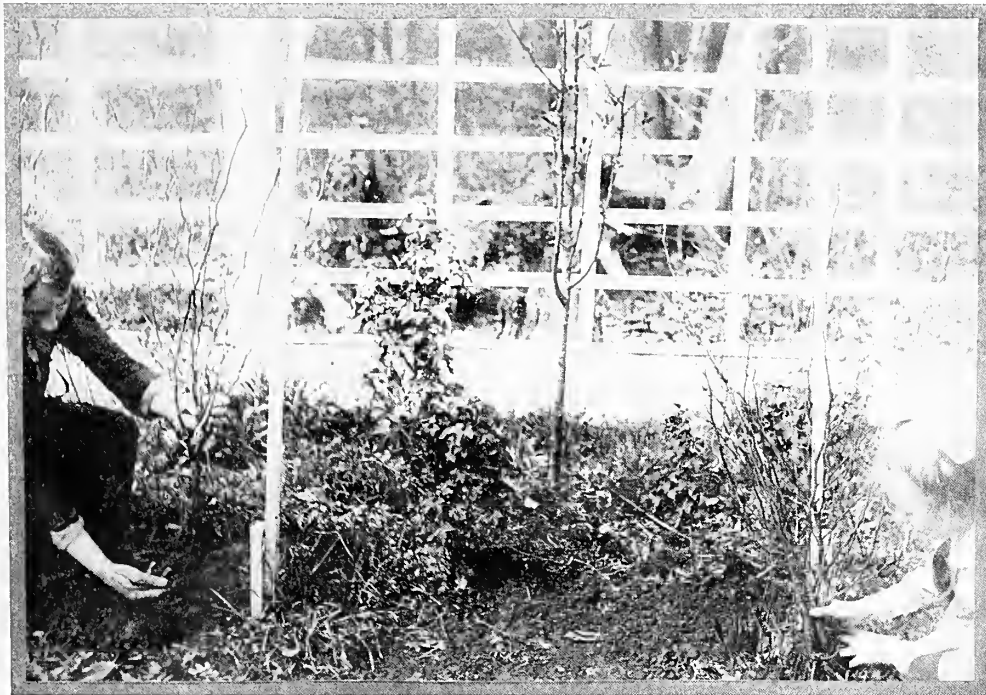
Here the lady who had charge of the lawns and shrubbery made her first mistake, that of spreading a dressing of rotted manure on the lawn as we went into the first winter. She had been careful to use first-quality lawn seed, for poor, cheap stuff is sure to be full of weed seeds and to condemn the unfortunate

it forth to the greatest advantage as a structure of real charm.

As our land was as flat as your hand, we had to make a slope, if only of five or six feet in total rise. To get a high cellar floor the foundations had only been put down a foot or so, and, after surrounding the walls up to the architect's watertable with a fill, and terracing it off in a neat prism, the contractor rested from his labors. We at once pulled it down and eased it off into a mild, long slope, adding fill where needed. It looked at first like a hopeless attempt, requiring at least several hundred loads of fill to make a job of it; but, as the slope should have the same graceful, incurving sweep as the roof, it worked out very nicely with not over seventy loads of fill added. It was at once seeded to stop rain wash, and so came our first lawn into being.

Our next care was the layout of the walks and the driveway. If you will look at the plan of the grounds you will note what places had to be reached by these, for the principal use of a path or a road is to get somewhere with it!

Another feature of the problem for the owner of a small place is how to get all this in and still have a little land left for planting. The main drive must reach the coal hole, and the barn or garage, and also permit the ingoing wagon or car to turn around and come out without either the horses stepping on the surrounding scenery and nibbling off the tops of your new pear trees or the car wheels furrowing up the adjacent lawn. To do this effectually seems to require an acre of ground! The minimum width of drive is eight feet and the minimum



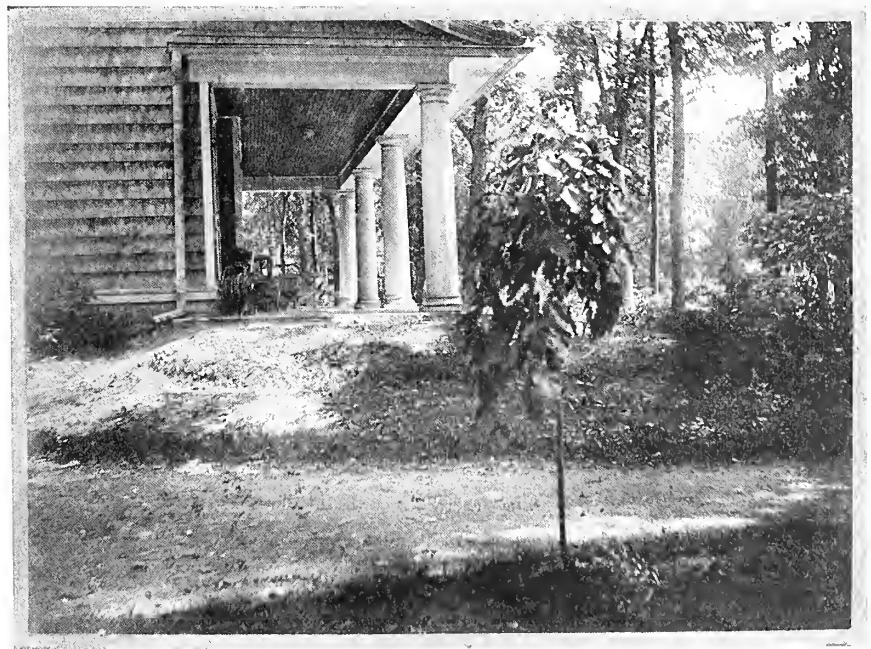
Planting rose bushes at the bases of a hairpin arch. Note roots and tops of these roses as they come from the nursery

sower to a long spell of hand weeding. The grass came up fine and uniform, and in less than two weeks we had a cool, refreshing greensward under the great forest trees that had been left standing for house shade.

The next year I went at it in the fall and put on three hundred pounds of lime, following, a few weeks later, when the lime had leached into the soil, with two hundred pounds of brown bonemeal fertilizer. This takes a whole winter of weathering to become available as plant food.

However, the results were encouraging; our lawns the succeeding summer were weedless and luxuriant and "stayed put." With the help of the hose they weathered every drought, and that discouraging dying off of the grass shoots, due to sour, un nourishing soil which starved the roots underneath, did not appear, except in isolated spots. The way that grass grew under the cosmic urge of spring made me, in addition to being the slave of the wheel-hoe, the unwilling slave of the lawn mower. But I took an unfair advantage of my better half and bought a *very* small mower with the finest of ballbearings, one that she and the children could run with all the ease of a safety-razor—and left them to their own devices!

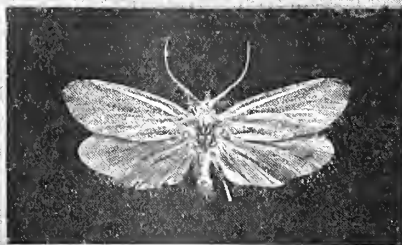
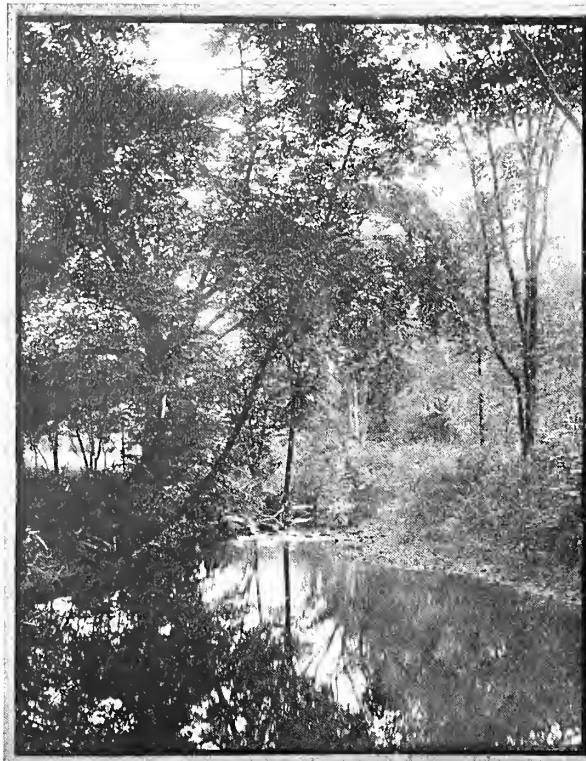
In a house of the Dutch Colonial type, with great sloping roofs and turned-up eaves to stop snow avalanches (the Dutch never do *anything* without a practical reason behind it) a site on some sort of slope is almost a necessity. Put the same house down in a hollow, with the ground slanting towards the porch, and you at once turn it into a most unprepossessing and belittled farm cottage. But let it occupy a commanding position on a slope, carrying out the sweep of the roof and carrying up the eye to its lofty ridge pole, and the Dutch Colonial at once assumes a dignity and imposing massiveness which set



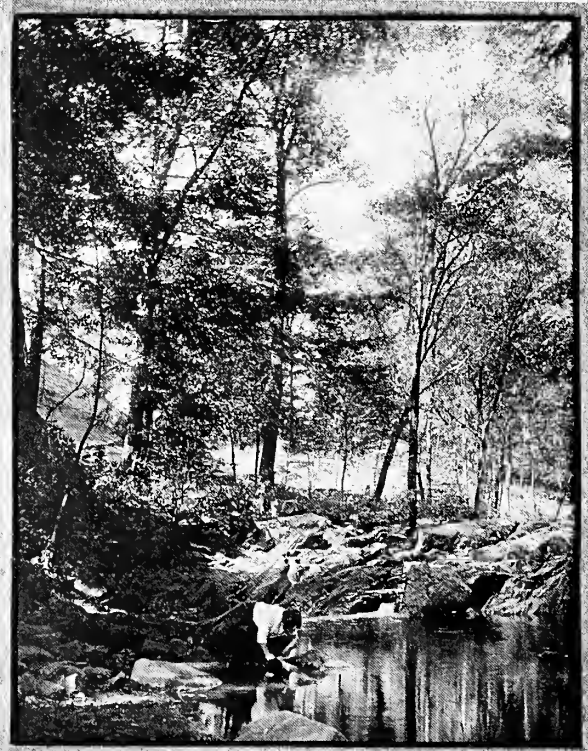
One of the weeping mulberries along the drive; showing also concrete porch and built-up lawn slope running off from the porch level

radius of your round turn should be twenty feet. Twice twenty is forty feet for the diameter of the central turning bed, an impossible size for a place of only 100 or 150 feet of frontage. We decided on our round turn to be made at a point about opposite the studio chimney, as the coal window was located just beyond it, and a large red maple, left from the original forest

(Continued on page 448)



Master Masons and Builders



In pools where you stoop to drink you can see the little cylindrical houses. Above is the mature caddis

The caddis, you will notice, drags his home-made house along the bottom. Every day is moving day to him

BEING THE STORY OF THE CADDIS FLY, THAT IS ITS OWN ARCHITECT AND CONTRACTOR—THE CONSTRUCTION OF ITS HOUSE—WHERE THE HOME IS LOCATED—THE LANDLORD PROBLEM SOLVED

S. H. CHUBB

The American Museum of Natural History

NEARLY everyone, who is in the habit of drinking at a spring in the primitive fashion with neither cup nor glass, has discovered those curious little cylinders, crawling, or rather being dragged, about on the bottom by their occupants and builders, the caddis worms, or, to speak more correctly, the larvæ of the caddis fly. This little creature has solved the landlord problem. The monthly demand comes not to his door!

While most of these structures are of the cylindrical school of architecture, there is a great diversity of treatment displayed by the various species, although the available material has much to do with the appearance of the finished dwelling. Almost anything which can be found at the bottom of streams and ponds may be used. Bits of sticks, tiny seeds, pieces of leaves, grains of sand or small stones are gathered and fastened together with silk-like threads of the builder's own make. The case is also nicely lined with this material, which is spun very much as a silkworm or caterpillar spins its cocoon. The separate threads can be distinguished only when magnified about ten times.

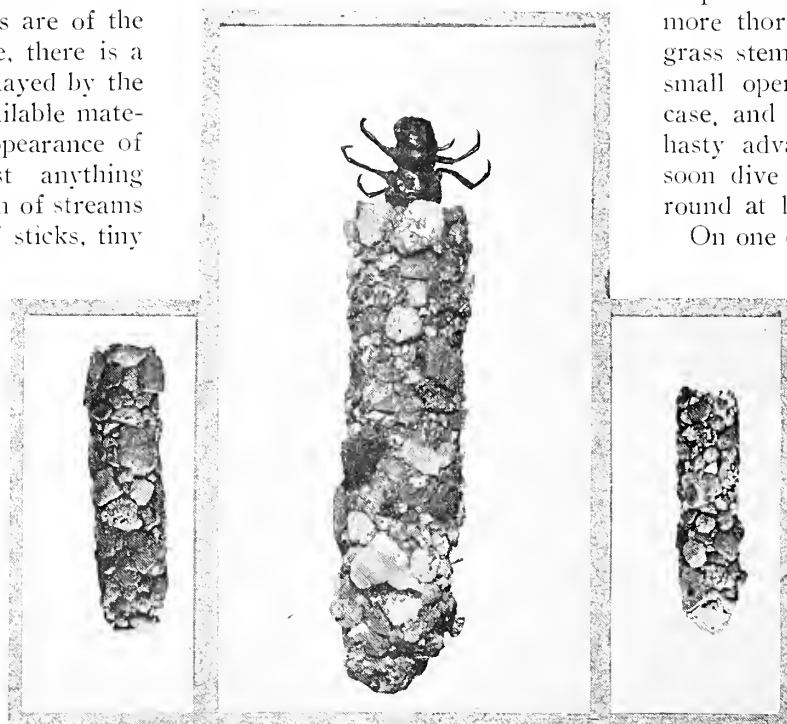
The larva is a soft-bodied little grub, too tempting to escape the sharp eyes of small fishes, were it not for his strange covering. When there seems to be no danger near, the head and legs of the



Diagram of the stone-pile variety shown opposite

hermit protrude at the open end of the cylinder and he will crawl about leisurely, dragging his home with him. At the extreme posterior end of the body there are two hooks with which he holds tenaciously to the inside of the case, and will refuse to be extracted even at peril of being pulled in two. An attack from the rear, however, is so unusual an experience that it takes him quite by surprise. Should you wish to examine him more thoroughly, take a pine-needle or fine grass stem and thrust it gently into the very small opening at the posterior end of the case, and the probability is he will make a hasty advance out the other end, but will soon dive in again head first and then turn round at his leisure.

On one occasion, having a number of caddis larvæ under close observation, I found that by some chance one caddis had been divested of his covering. Instead of adopting the usual course of diligently setting to work to repair the loss, this individual became alarmed and quite demoralized, broke into the back door of one of his neighbors, driving him out the front way. The rightful owner turned round and faced the enemy, but could not prevail. After some manœuvring he discovered the breach in the rear and drove out the intruder, who then repeated his strategic move. This most



While most of the structures are of the cylindrical school of architecture, a diversity of treatments is displayed. When there is no danger, the head and legs of the grub come out and he walks around dragging his house behind him. Pictures highly magnified

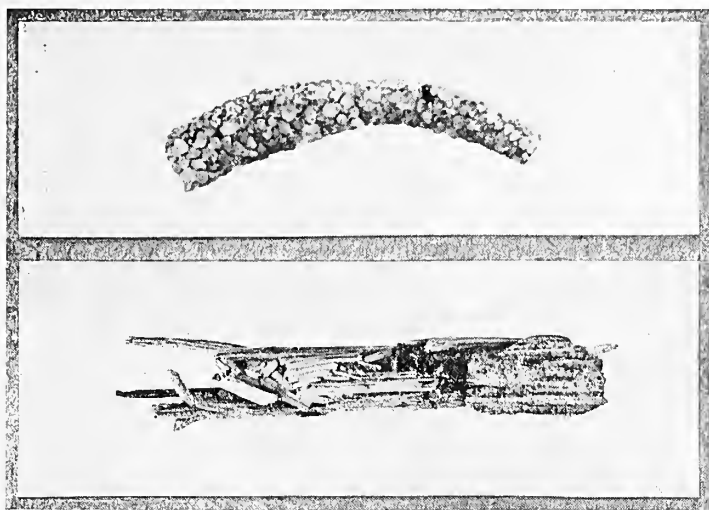
unprofitable "merry-go-round" continued for some time without any evidence of merriment. The final outcome was the hasty building of a new retreat, whether by the interloper or the dispossessed I am, unfortunately, not able to say.

Like most insects, the caddis spends the greater part of its life in the larval stage. Passing through a quiescent period of pupation, it emerges from the water as a delicate, gauzy-winged fly. The pleasures of an aerial life, however, are very brief, for after the eggs are laid the parents die within a few days.

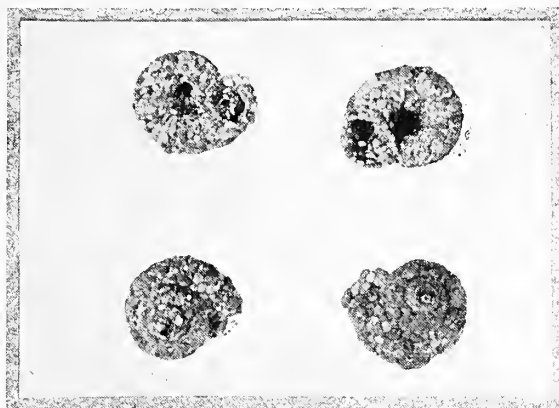
In the Catskills, where most of these observations were made, one of the most common varieties of larval cases is roughly constructed of sticks and stems or bits of bark sufficiently water-soaked to sink to the bottom. The posterior opening is reduced to a mere pinhole, either by fastening in small fragments or by weaving a partition of silk across the end of the cylinder, leaving a very small hole in the center. The larva, by an undulating movement of the body, causes a constant current of water to pass through the case and out this hole, thus furnishing a supply of fresh water for breathing. The respiratory organs, unlike those of higher animals or even fishes, are located along the surface of the body. With such a breathing apparatus as this they must escape all annoyance from coughs, colds and adenoids.

A much more perfectly constructed variety of case is made of tiny stones of various shapes, sizes and colors, nicely fitted together, forming a most beautiful little mosaic. The material is not collected at random, but stones are selected which will give the finished structure a comparatively even surface both inside and out. The posterior end of the case is covered by a single stone, leaving one or more minute openings around its edge for the circulation of water. This is one of the most beautiful varieties found in the Catskills.

For six hundred years or more the mosaic of the Novicella at St. Peter's in Rome has excited wonder and admiration, and yet it is almost appalling to reflect that these lowly little



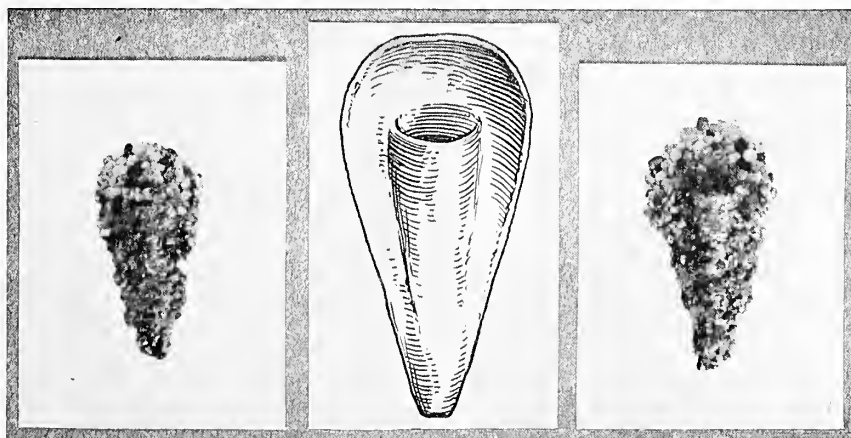
One common variety of larval case is a rough stick and bark structure; another, more perfectly fashioned, is built of carefully-selected stones, curved and tapering. Pictures highly magnified



A caddis' house built after the fashion of a snail's shell. The masonry in these is very remarkable. The original is 3/16 inch in diameter



Three specimens of the stone-pile variety, the first showing the floor and the opening through which the larva feeds



One interesting specimen is shaped like an oyster shell, with a cornucopia-shaped pocket on the upper side. It is half an inch long and moves very energetically

creatures were diligently gathering stones, hewn out by Nature's tools, and fitting them into their mosaic designs with marvelous skill thousands of years before the foundations of St. Peter's were laid; while the arch-stones were resting in their geological beds.

A variety somewhat similar to that just described is composed of fine grains of sand, slightly curved, and tapering toward the rear.

An interesting, though not particularly beautiful shelter, appears at first sight to be merely a little pile of stones. It is, however, designed with some care, for under this dome is a living-room with a floor of fine grains of sand through which there is an opening, allowing the inmate to feed upon minute vegetable matter without even his head appearing from under cover. This species, unlike the others mentioned, prefers the most swiftly-running places in a stony brook, where they may be found by hundreds clinging to the sloping surfaces of rocks. They move about very little. After the larva has built his tent over him he proceeds to drag it about until a suitable pitching site is found, where he makes fast and remains as long as pastures are green.

Nature, with all her endless resources, now and then seems to fall short of designs, so that we find apparent imitations or repetitions or accidental resemblances between creatures of very widely separated stations in Nature's scale. For instance, the armadillo with its horny shell is very suggestive of a turtle, the former belonging to the great order of mammals and the latter to the reptiles. Stranger still is the pangolin of Africa with its scaly covering, suggesting a pine-cone walking on four legs. The caddis, it would seem, also feels this lack of originality; for once, while scanning the sand very closely at the edge of a Catskill Mountain brook, I found a number of what appeared to be tiny snail-shells three-sixteenths of an inch or less in diameter. Beginning at the apex, though much too small to be seen by the naked eye, the little spirals gradually widened in perfect curves, and curiously enough,

winding in the same direction as the common garden snail. With a magnifying glass it could be seen that they were made of the finest grains of sand fitted together and forming this wonderful copy of a minute snail shell.

Now these little structures had not simply grown like a flower in a mysterious manner which we hardly attempt to understand, but had been manufactured with mechanical skill which we would suppose must take years of experience to acquire. Yet each little caddis, about as soon as he was hatched, set to work to build himself this marvelous home without ever serving a day of apprenticeship. How is it done? We say by instinct; yet this takes nothing from the wonder of it nor offers any very satisfactory explanation.

In the beautiful little stream flowing through Sleepy Hollow, within a stone's throw of the old church which was made famous by Washington Irving, we found hundreds of little creatures, almost microscopic in dimensions, which had saved time and labor by crawling into any little bit of hollow stem available, but, in compliance with the usual caddis habit, had loosely attached a few tiny fragments to the outer surface of their improvised cylinders.

How it must have frightened the wary little creatures when those hoofs went thundering across the bridge over their heads in the dead of night, and they heard the hollow thud of that grewsome pumpkin as it was precipitated upon the cranium of poor Ichabod!

But a New Yorker need not go to the Catskills or even to Sleepy Hollow to find caddis worms. Within sound of Broadway traffic and in sight of the Subway trains, above where they emerge from the tunnel, the little stonemasons may be found in abundance. In a spot no larger than a barrelhead fifty of one of the commoner varieties were counted, and it was here that we found one of the most interesting species.

For lack of something better, let us compare it with a well-rounded oyster shell with the hollow side down and a cornucopia-shaped pocket on the under side. This little shell, only one-half of an inch in length and composed of the grains of sand from the bottom, over which it moves, is almost invisible. The inmate is particularly well protected, too, as he enjoys considerable freedom under his own canopy, coming out of the pocket nearly his full length and reaching about without appearing beyond the edge of the shell. When undisturbed he is much more active than any species I have observed, every move being quick and energetic.

One individual, kept for a time under close observation, became sufficiently domesticated to relish little particles of lettuce leaves, but it must be confessed here that finally he was cruelly robbed of his house. It was needed for the camera. I thought he could probably build another; certainly I could not, but I did furnish him with the very best of material, nice, fine sand composed chiefly of water-worn grains of quartz, somewhat transparent,

so that he might reveal his methods of constructing a home.

The work was soon started by his burying himself just beneath the surface of the sand. With the microscope he could be seen through the quartz diligently "sewing" those grains together which immediately surrounded his head, thus forming a ring. Other grains were added to the forward edge of this ring, forming a slender cone, enlarging as he progressed. Soon he had come quite to the surface of the sand, so that the work could be watched more perfectly. The posterior end of the body now protruded only a little beyond the small end of the cone. Then the edges of the shell were begun, extending out on opposite sides of the cone and gradually widening until the pocket was completed.

The curve of the shell was now continued forward and laterally, the workman reaching out for a grain of sand, then rolling over on his back to place it in position over his head.

The work was carried on with great rapidity. Every grain seemed to be handled in nervous haste, with only an occasional pause, apparently for rest. Through the microscope each grain of sand, which, when compared with the worker, seemed like a stone or great rock, was picked up between the two front feet and tried in a certain space, turned over rapidly once or twice, and then end for end, until it could be made to fit. Frequently, when a fit was found quite impossible, not the stone, but the space, would be discarded for another. The stone, finally fitted, was then made fast with a few silk threads, and all this in a few seconds. The time spent in building this structure, which was not so large as those shown in the illustrations, was about six hours. The larger one of the two illustrated, it may be of interest to know, is made up of no less than fourteen hundred stones all fitted into place one by one.

As a designer, I should say this species is among the most accomplished, but in workmanship not

equal to the simple stone cylinder maker. In the latter the stones are fitted much more perfectly and bound together with hundreds of silk threads, making a very strong structure, whereas the "oyster-shell" variety is so delicate that it must be handled with the greatest care.

The larva is surprisingly small, as compared with the shell, being less than one-third its length and quite slender. Even the inner pocket is so spacious as to give the inmate almost room enough to run about, while with most species house and tenant make a pretty close fit.

How strange that there should be such a diversity of taste shown among these kinsfolk, and what a world of craftsmanship is to be found within these narrow walls! Probably there are no labor troubles among these workers; every man his own employer; every shop a closed shop. But what an example of primitive individualism, walling one's self into a stone cell,

(Continued on page 454)



Oak leaves skeletonized by the caddis worms and a beach leaf taken from the water during the operation. A caddis is shown on the lower border of the leaf, as it would appear in life

Efficiency in The Flower Garden

BULBS AND TUBERS FOR JUNE PLANTING—USING THEM FOR THE BEST EFFECTS—HOW TO SAVE THEM FOR THE NEXT YEAR

F. F. ROCKWELL

AMONG the plants which may be classed as tender bulbs and tubers are some of the most indispensable of the garden's flowers, and a few, such as dahlias, gladioli and cannas, which are universally considered as belonging in the front rank. Besides these there are a number of others not nearly so well known as the fall bulbs, not because they are less useful or beautiful, but simply because the seedsman usually has less room to talk about them in his spring catalogue. Like several other groups of flowers which have been discussed, the summer bulbs have a number of points in their favor. They are adapted for use in many ways, with the exception, of course, of formal design-bedding; but that is, perhaps, an advantage rather than a disadvantage. They have to be planted out every year, for the most part; but, on the other hand, they do not have to be given winter protection, and in many cases it is much easier to take a few bulbs up, store them and put them out again in the spring, than to find the manure or leaves with which to protect them.

For quick, striking and certain results, and for cut flowers that are beautiful and lasting the best of the bulbs in this class are without superiors. Another distinct advantage of this class of flowers is that they are well adapted to the late-made or temporary garden. They can be used in a place one year and, if necessary, moved with the other household goods and chattels to be enjoyed wherever the garden may happen to be made another year. In their dry state they take up very little room, and are easily cared for so long as they are kept away from a freezing temperature. Most of the bulbs in this group are tender, and, as it is not safe to plant them until after danger of frost, but as they grow rapidly when warm weather has set in, they are quite ideal for the garden which must be made late.

Their demands in the way of general care are simple. A well-drained soil, made rich with a well-rotted manure or compost and bone

flour. They are comparatively free from the attacks of insects or diseases. They do require, however, an abundance of moisture, as many of them are of a tropical nature. Liquid manuring, after they are well started, is particularly beneficial. Cow manure, or stable or hen manure, diluted with water until the color of weak tea, will prove a great stimulant and is not likely to be used to excess. The taller growing plants, such as dahlias and gladioli, in exposed position should be staked. Where they are planted in beds it is not necessary to stake each individual plant, as a few stakes driven about the circumference and at intervals through the bed will serve to hold a heavy, loose-woven twine that may be stretched between them in a coarse network. Where support is to be given, give it early; it is a thankless task to try to tie up plants that have once been beaten down by wind and rain. The cultivation of the surface soil should not, of course, be neglected, and a light mulching where small plantings are to be made in sunny positions is highly effective in maintaining the soil moisture.

Towards the close of the season, before danger of the first frost for the tenderer varieties, such as calla lilies and caladium, and after the first foliage-killing frost for other bulbs, such as cannas and dahlias, the tops should be cut off several inches above the ground, and the bulbs carefully forked up and put where they will dry thoroughly, with plenty of sunshine and air, but safe from the night frost. An old blanket or a few burlap bags thrown over them at night will protect them sufficiently for a week or two after taking them up. Then they should be stored carefully, preferably in sand or sawdust, where the temperature is between 35 degrees and 40 degrees. Caladiums, which are exceptionally tender, should be kept in a temperature between 40 degrees and 50 degrees.

The most popular of the several excellent things in this class are, of course, the dahlias. Their remarkable development during the last decade or so has been one of the sensations of flower history. They

(Continued on page 459)



Towards the close of the season, before danger of the first frost, cut off the tops, fork up the bulbs and dry them out

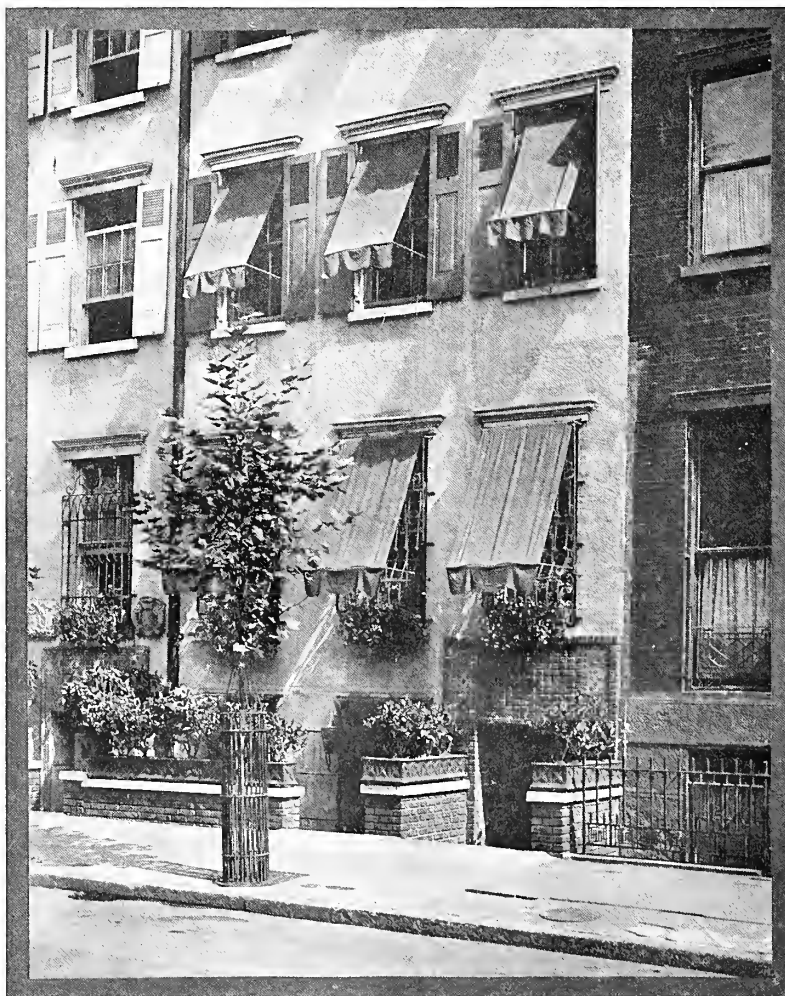
Awnings and Screens that Decorate

AN EXTERIOR SUMMER DETAIL UPON WHICH DEPENDS MUCH OF THE APPEARANCE OF THE HOUSE—LABOR-SAVING DEVICES IN AWNINGS—VENETIAN BLINDS AND THEIR POSITION—CURTAINS FOR SLEEPING PORCHES

HANNA TACHAU

THE exterior of a house, unlike its interior, is not a purely personal thing. It is free to all who care to see; its charm may be an inspiration to every passer-by, and so we owe it not only to ourselves but to others as well to waive all personal eccentricities and to endeavor to make our homes express that rare sense of proportion and beauty of line, of harmony and individual distinction, that are the evidences of good taste.

It is not of the general plan and style of a house that we have to do here, but of one of its minor decorative features which, though seemingly insignificant, yet, if not carefully treated, is capable of playing havoc with all attempts at creating a harmonious whole. In treating seriously the external decoration of a house, the selection of awnings should not be a casual affair, one to be accomplished with as much despatch and as little effort as possible, but it should be done as painstakingly and thoughtfully as one would choose the size and color of a rug or the color and texture of a wall



The awnings on this city house are the result of an effort to attain the right shade and shape for the type of the house, which is stucco with Spanish grills at each window. Comparing it with the other two houses, one can appreciate the extent to which awnings decorate

emphasis. Broadly speaking, awnings should sound the same note as any other decorative detail; they should be applied as exterior trimmings and yet should keep their place and become a part of the larger surfaces of the house, but should not in any way transgress the bounds of propriety, flaunting crude colors and conspicuous designs that have nothing to do with the general color-scheme of the house.

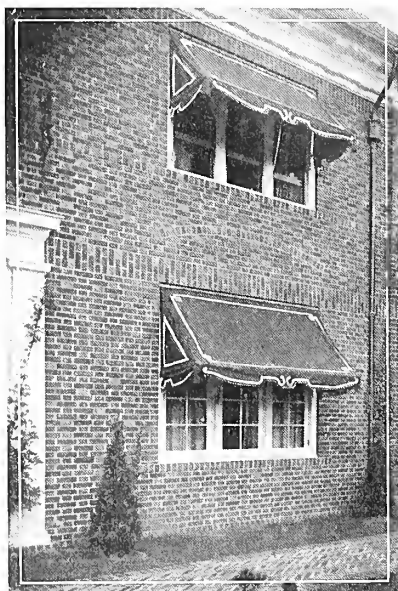
Environment also has much to do in shaping the selection of awnings. Against the brilliant blue skies, sparkling water and vivid green that are part of the charm of a seaside resort, awnings may assume the gay hues that harmonize with so happy a background. In such surroundings concrete and stone houses with red tiled roofs may have their color repeated in red and white striped awnings, provided the red of the one co-ordinates with the red of the other. Even yellow and vivid blue can be made to hold their own in such an atmosphere, though the latter will probably not last more than a season or two when

covering. There should be evidenced, in their choice, a sense of fitness to the style of architecture they are to adorn, a sincere regard for color and design, and a fine appropriateness that result from a gracious adaptation of the design to the subject.

Simplicity should be the keynote from which to work. The tendency of the past few years has been to introduce ornate awnings—plain materials with skirts embroidered in intricate designs, stenciled and appliquéd patterns applied in contrasting colors, but these effects are rather dangerous when put into use, except in special cases, when a too somber surface needs an accent of color, or a line requires

burned by the pitiless rays of the sun.

But in the more conservative surroundings of suburbs or rolling



Where the walls are not decorative, the awnings can relieve the sameness



French awnings of white or oyster gray, with a narrow border and scalloped edges, are effective on certain types of houses

countryside, where the air is not stimulating and where color is not so vibrant, we are more restrained in our use of decoration, attempting to secure a certain tempered atmosphere that brings comfort and peace. Green and white striped duck is perhaps the most popular and widely used material for the fashioning of awnings, for it is a combination that lends itself readily to both picturesque and classic forms of architecture and is sufficiently neutral in tone to be adaptable to almost any house. There is a soft gray-green that is indescribably cool looking, and is less crude in color than many of the brighter greens. It can be made to accord perfectly with the red brick or white plaster or clap-board of Colonial houses.

For stucco and brown-trimmed structures brown and white striped duck is excellent, both in texture and wearing capacity. Khaki is wonderfully durable, and bears the heat of the sun without losing its color more successfully than perhaps any other material, but it cannot be used any more indiscriminately than any other fabric. It looks well with brown or natural-colored shingled dwellings or those of stucco, or against neutral walls that are partly vine-covered. A successful way of securing unusual color combinations for awnings is to sew strips of fast-colored duck together, for canvas that is painted to get certain desired tones does not wear well. A two-toned material, called Textol cloth, showing one color on one side with a different tone on the other (it can be had in all shades) is serviceable and often very effective, especially when white awnings are to be used, when the under color is green, softening the white glare and imparting shade that is restful to the eyes.

There are various ways of finishing the skirts of awnings. The different designs are simply bound in braid, or they may be scalloped and then bound; but perhaps the most distinctive models

are those which are finished with heavy fringes. They are particularly decorative, and awnings need no other ornamentation than this effective trimming.

Very few city houses, unless they are individual in conception, are improved in appearance by awnings, and they are only adopted from necessity, so the simpler they are in design, and the less conspicuous in color, the better. Very often, for country houses, awnings can be made to have a distinct decorative value as well as to serve a practical use. Porches and windows need the accentuation that can be gotten by the use of bright color, or, again, they may be toned down and almost hidden, making them keep their places in the general composition.

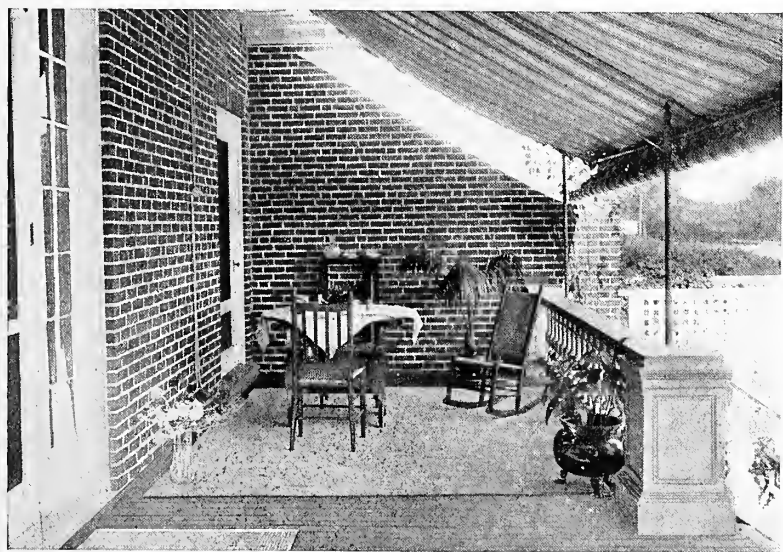
If you do not care to call upon the services of a decorator, but would rather solve the problem of awnings for yourself, try to study your house from a distance as well as close by, to get a proper perspective. From this vantage you can get a view of the house as a whole, can grasp its color relationship to the surrounding landscape, and can come to a better conclusion as to what is required best to fulfill its needs. The ordinary department store will send you a book of samples to choose from, small slips that can give you no adequate idea of their

designs. It is hardly possible to make a suitable selection in this way, so it is well to see how a larger quantity of material will look before making a final decision.

The utility of awnings must be considered as well as their artistic possibilities, for it has been found that awnings are the most practical of all contrivances for keeping out rain as well as heat, when the windows are open. The simpler their mechanism, the better; a complicated system of pulleys and ropes always ends in disaster. There are various modifications that can be applied to different kinds of windows or can be adapted to difficult porch problems. For high, narrow windows there is a combination awning and blind, the awning projecting over the lower part of the window, the upper sash being protected by close-fitting blind; these work mechanically, and the latter can be lowered when not needed to allow thorough ventilation. There are also ventilating awnings, which are especially adaptable for sleeping apartments, and they are fashioned in two or more sections, thus admitting the air into the room.



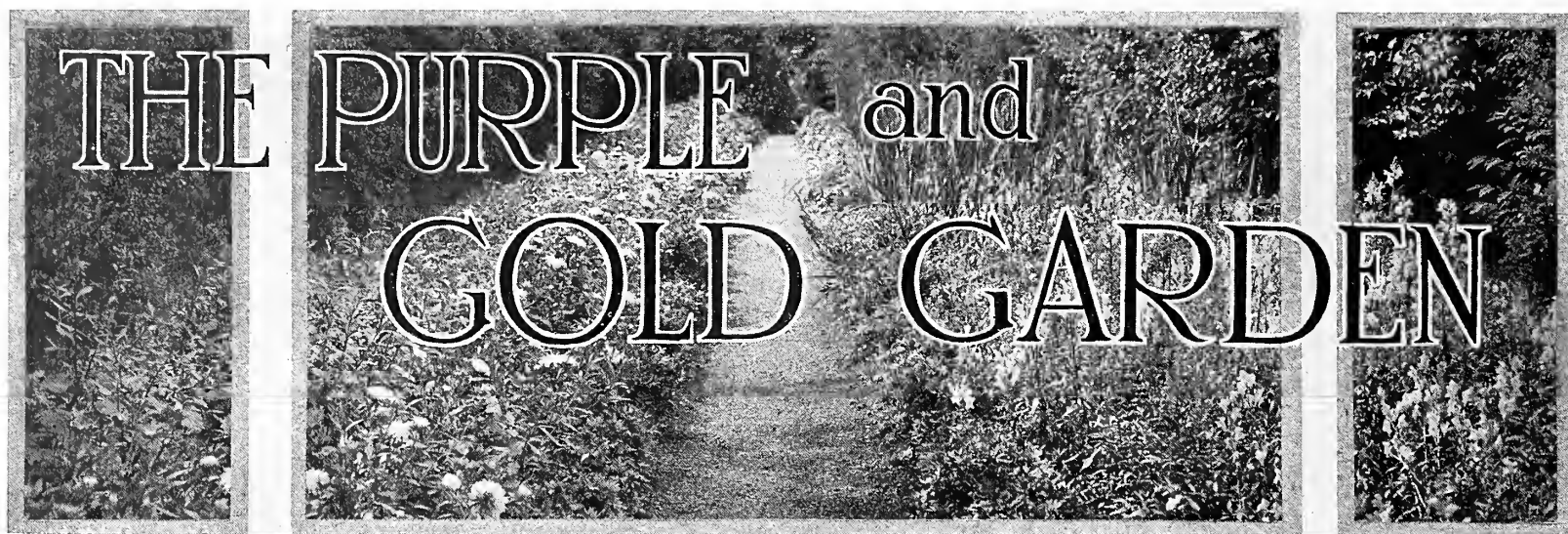
The mechanism of inside screens and curtains should be simple and easily worked. This type of curtain can serve both for summer and winter



A terrace may be shaded or left open to the stars if its awning is arranged on an iron piping frame



A corner of an unsheltered terrace is an excellent place for a large umbrella



A modest purple and gold garden in which a border of yellow snapdragons and yellow asters is effectively framed in by a background of gray-foliaged shrubs and trees

AN ALL-SUMMER COLOR SCHEME ADAPTABLE TO BOTH SMALL AND LARGE PLACES—HOW TO CHOOSE THE RIGHT TINTS FROM NATURE'S PALETTE—A TABLE OF SUCCESSIONS TO GUIDE YOU

ELIZABETH LEONARD STRANG

Photographs by Mary H. Northend

THE purple-and-gold garden will be purple and gold from early spring until late fall. And by purple I mean a true royal purple, not a magenta, though some of the flowers are lavender and violet-red. By gold I mean, in this instance, clear, light, soft yellow and a deep, true yellow—not orange or tawny yellow.

Let us suppose in this instance that the owner of a small city lot 50 feet by 120 feet has a mass of shrubs around the boundaries of the property and wishes to assemble in front of them a purple and gold succession of flowers. The foliage of the shrubs might be silvery gray, in order to enhance the brightness of the flowers. These gray shrubs would be *Salix regalis*, or royal willow, really a tree; *Salix rosmarinifolia*, rosemary-leaved willow, a shrub with narrow, gray leaves; *oleagnus*, *Hippophae*, and tamarisk. Other shrubs will contribute directly to the purple-and-gold scheme.

In late March or April will be the yellow blossoms of *Cornus mas*, and a little later the forsythia will contribute a still deeper yellow. At this time purple and gold crocus will be blooming in groups at the base of the shrubs, and purple violets will be in the grass. Later in April will come purple and yellow tulips and the daffodils. The named varieties of these are mentioned in the special list.

In May we will have among the shrubs *Azalea mollis* and the deep purple lilac Charles X. A few yellow and lavender Darwin

tulips and some clear yellow and deep purple iris can be in front of the shrubs.

In June the *Clematis Jackmanni*, deep purple; Harrison's yellow, the yellow tassels of the laburnum, the old-fashioned rose that we all love, yellow columbine and lemon lily, with the lavender *Phlox Arendsii Helene* will be enough to give the color.

In July a *Kohlrauteria* or varnish tree will have a delicate yellow blossom which lasts nearly six weeks; *Anthemis tinctoria* will give a huge cluster of brilliant, yellow, daisy-like flowers on fern-like foliage; and phlox Modesty a rosy purple.

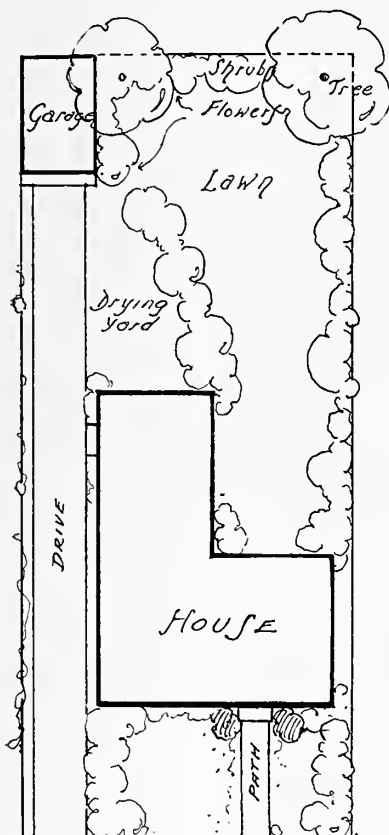
In August *Lilium auratum*, or gold-banded lily, will come into bloom, the anthemis is still attractive, and *Phlox Crepuscule*, with deep purple center and pale lavender edge, will make a softer combination than is found in some of the other months.

In September and October quantities of purple New England asters and the *Helenium autumnale*, a glowing yellow, will form a gorgeous climax for the season, for the tiny yellow-button chrysanthemums in November are merely a cheerful note.

Now let us assume that a more elaborate garden is desired (Fig. 2). This shows a little square garden 25 feet by 25 feet in the sunny angle of the house with a flower border 35 feet long leading from it and terminating in a little statue. The garden might be built without the flower border, or the border should lead directly from one of the rooms



A more pretentious purple and gold garden, where purple and lavender phlox contrast effectively with the rich gold of the *Anthemis tinctoria*



A small city lot would lie bordered with a mass of shrubs, in front of which would grow the purple and gold succession of flowers

of the house into the garden.

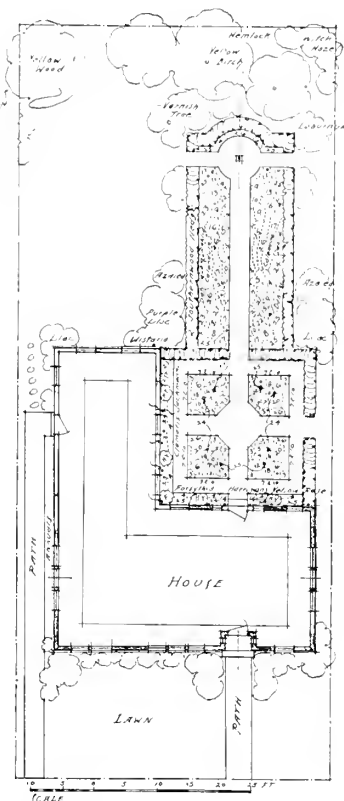
The execution of such a garden could be expensive or inexpensive, as desired. It always pays to prepare the soil well, though, so there should be two feet of good loam, well enriched, in all the beds. It might have brick or gravel walks with narrow box edging and taller box for the outer hedge. This would be expensive, though very attractive, and, besides, box is not entirely hardy in cold climates. A semi-formal look could be given by a walk of field stone laid irregularly. The hedge would be gay in color like the 2-foot hedge of fragrant *artemesia* or southernwood.

Over the stone edge of the walks could creep irregularly the little border plants. These are *aubretia*, rosy purple, deep purple violets, yellow *alyssum saxatile*, and primroses, and the *Viola cornuta*, Purple Queen and the Iceland poppy. *Alyssum saxatile* rounds out the corners of the little square

garden because its gray leaves make an attractive tuft after the plant has finished blooming.

Around the circle in the square garden are purple *aubretias*, back of these purple iris, and back of these again yellow iris. *Baptisia* makes a big round mass in each bed with purple flowers and gray leaves and anthesis a strong clump of gold. Around these last two in the centers of the beds are massed phlox in various tones of purple and lavender, both early and late. *Phlox Arendsii Helene* is lavender and comes in June, Modesty is an early one of rosy purple, Mahdi is a deep bluish purple and Montagnard a violet purple. *Crepuscle* is lavender with a deep purple center and *Antonin Mercie* is lilac with a white center. Plenty of early and late tulips are used throughout these center beds

(Continued on page 455)



On a more pretentious place a special garden could be devoted to this color scheme—a little more formally treated

PLANTS FOR A PURPLE AND GOLD GARDEN

APRIL.	HERBACEOUS PERENNIALS.	SHRUBS.	BULBS.	ANNUALS.
1.	<i>Aubretia deltoidea</i> , violet color.	<i>Cornus mas</i> , Cornelian cherry, small yellow bloom.	<i>Crocus</i> , Cloth of Gold, yellow.	
2.	<i>Viola odorata</i> , the Czar, deep purple violet, fragrant.	<i>Forsythia suspensa</i> , golden bell, bright yellow.	<i>Purpurea grandiflora</i> , deep purple.	
3.	<i>Alyssum saxatile</i> , gold dust, bright yellow.		<i>Fritillaria imperialis</i> , Crown imperial, single yellow.	
4.	<i>Primula vulgaris</i> , English primrose, soft yellow.		Early Tulips, Yellow Prince.	
			Wauverman, deep violet.	
			<i>Narcissus</i> , Trumpet maximum, large golden yellow.	
			Trumpet major, deep golden yellow.	
			Von Sion, old fashioned daffodil.	
MAY				
5.	<i>Iris Germanica</i> , Purple King German iris, deep purple	<i>Azalea mollis</i> , Anthony Koster, hybrid azalea, bright yellow.	Darwin Tulips, Bouton d'Or, round deep yellow.	
6.	<i>Baptisia australis</i> , false indigo, purplish blue.	<i>Wistaria Chinensis</i> (vine), purple wistaria.	Ellen Wilmot, yellow.	
7.	<i>Viola cornuta</i> , Purple Queen, tufted pansy, deep purple.	<i>Syringia vulgaris</i> , Charles X, deep purple lilac.	Mrs. Moon, golden yellow.	
8.	<i>Lupinus polyphyllus</i> , lupine, purplish blue.		Rev. Ewbank, lavender.	
9.	<i>Iris Germanica</i> , Aurea German iris, clear yellow.		Erguste, lavender.	
10.	<i>Papaver nudicaule</i> , Iceland poppy, golden yellow		Negro, dark purple, almost black.	
11.	<i>Trollius Europaeus</i> , globe flower, bright yellow.		La Tulipe Noir, almost black.	
JUNE				
12.	<i>Phlox Arendsii</i> , Helene, early lavender dwarf phlox.	<i>Laburnum vulgare</i> , golden chain, bright yellow pendant flowers.	<i>Lilium Hansonii</i> , deep golden yellow lily.	Yellow annual phlox, pale yellow calendulas, pale yellow snapdragons, purple stock, Violet Queen, deep purple verbenas, heliotrope. All these things will last until frost.
13.	<i>Hemerocallis</i> , lemon lily, flava, early; <i>Thunbergii</i> , late	<i>Clematis Jackmanni</i> (vine), deep purple large flowers.		
14.	<i>Anthemis tinctoria</i> , bright yellow daisy-like flower.	Harrison's yellow rose, old-fashioned sweet scented.		
15.	<i>Aquilegia chrysantha</i> , pale yellow long spurred columbine.			
JULY.				
16.	Phlox, Modesty, rosy purple early phlox; <i>Anthemis</i> still in bloom.	<i>Kohlrauteria paniculata</i> , varnish tree delicate yellow blossoms.	Gladioli, Blue Jay, deep purple.	
			Bodenia, lavender.	
			Canary Bird, clear yellow.	
AUGUST				
17.	<i>Statice latifolia</i> , sea lavender, cloudy lavender.	Varnish tree still continues for gray foliage.	<i>Lilium auratum</i> , gold banded lily.	
18.	Phlox, Mahdi, deep bluish purple.			
19.	Phlox, Montagnard, red violet.			
20.	Phlox, <i>Crepuscle</i> , purple center, lavender gray edge.			
21.	Phlox, <i>Antonin Mercie</i> , white center bordered lilac.			
22.	<i>Statice sinuata</i> , pale yellow.			
SEPTEMBER AND OCTOBER.				
23.	Aster, hardy, Edward VII, deep purple.		<i>Colchium autumnale</i> , autumn crocus, lavender.	
24.	<i>As er Nova Angla</i> , New England aster, purple.			
25.	<i>Helenium autumnale</i> superbum, deep yellow helium.			
	Iceland poppy and viola bloom again.			
NOVEMBER				
26.	<i>Chrysanthemums</i> , hardy yellow button Little Pet, deep orange yellow.	<i>Hamamelis Virginiana</i> , with hazel, small bright yellow blossoms.		

The Case for Wall-Board

CUTTING THE COST OF VACATION HOMES—ITS ADVANTAGES AS A SUBSTITUTE FOR LATH AND PLASTER—THE SIMPLE METHODS OF PUTTING IT IN PLACE—ITS DECORATIVE POSSIBILITIES

PHIL M. RILEY

Photographs by Mary H. Northend

THREE pronounced tendencies in building now attract the visitor at our leading summer colonies: The growing popularity of the bungalow, the ideal type of vacation home; the wide adoption of stucco construction to every architectural style, and the increased use of wall-board for interior linings. At Marblehead Neck, Mass., the summer home of Mr. Robert S. Stone presents a case in point. The work of Putnam & Cox, Boston, it is at once attractive to the eye and well calculated in the arrangement of rooms to give a full measure of pleasure and comfort. One enters from the shore side through an arbor-covered porch, passes through the living-room and out upon the covered verandah overlooking the broad Atlantic. At one side of this outdoor living-room a narrow, winding stairway leads to the large attic chamber above; it is the unique feature of the floor-plan.

Returning indoors, it will be noticed that wall-board has been used for the lining of every room. The choice was made because of inherent merit, its good qualities being less well known than those of the bungalow-type of summer home or of stucco construction, but readily appreciated when convincingly explained.

Wall-board has rightly been termed artificial lumber, and also the substitute for lath and plaster on walls and ceilings. Hard, stiff, homogeneous and durable, the best makes possess every desirable quality of wood, except the minor characteristic of grain, also many besides. It consists of long, tough, wiry wood fibres of spruce, pine and hemlock compressed into boards of uniform thickness, kiln-dried, laminated with fire-and-water-resisting cement and surface-filled or primed by methods of scientific processing. For variety of effect one side is often smooth and the other pebbled, so that either may be chosen. Two thicknesses are available: $3/16$ " and $1/4$ ", the former being more often employed. Made in two widths, 32" and 48", and in lengths of 4' to 16', all average requirements are met with scarcely any waste,

no matter whether the studs are centered at 12", 16" or 24".

Despite their much greater widths, these processed wall-boards are as strong and durable as thicker and much more expensive boards of wood, and can be used in places where the widest obtainable woodboard of similar thickness would be impossible. The sanding, joining and matching of lumber are eliminated in their use, and finishing is rendered much easier.

Wall-board is applied by the carpenter, thereby eliminating considerable waste time, which plasterers require to make ready for their work. Moreover, the cost is never more, and some-

times less, than plaster, and the finished surface more quickly and easily applied, with no more dirt than results from the laying of a hardwood floor. With wall-board you pay only for the surface actually covered, whereas in estimating the cost of plaster openings, such as windows and doors, are not deducted unless larger than standard size. Wall-board requires no period of drying, with danger of impaired health if neglected; the house may be occupied as soon as the board has



By making panels with narrow, stained battens fastened along the edges of the wall-board, the living-room ceiling and walls were very effective. Putnam & Cox, architects

been applied. Delay is inevitable when plastering is attempted. Masons can rarely begin work promptly, suitable weather conditions must often be waited for and each coat must dry before the next is applied; also improper mixing or application, buckling of the laths, shrinking of the studding, settling of the house or vibration of street traffic will often cause plaster to chip, crack and even fall.

Unlike porous plaster, which permits the passage of cold air and dampness, wall-board furnishes a sanitary lining for walls or ceilings, strong, durable, waterproofed, fire-resisting and non-brittle, so that, being nailed to the frame of the house itself, cracking and falling are impossible. It is a better non-conductor of sound, heat and cold, promoting greater house comfort the year around, can be applied three times as fast as plaster, weighs only one-fifth as much, costs no more, and will last as long as

wood or steel, which costs one to three times as much. The finishing of these linings is an important consideration; two coats of paint give a good finish to the best wall-board, whereas three to six are necessary on steel. No priming coat is needed as on wood, and this cuts the cost of painting in two. With washable paints a smooth surface is given, which, unlike wall paper, may be wiped like woodwork and kept absolutely clean; vermin find no place to lodge on wall-board, which is another great advantage.

The fire-and-water-resisting cement forced into wall-board in the course of its processing forms an enveloping film not greatly unlike paint or varnish, which enables it to withstand water from one to four hours. Thus pipe leaks, which cause plaster to bulge and fall, have little or no effect upon wall-board, often not even discoloring it. Whereas plaster withstands a pressure of only fifty to seventy-five pounds per square inch, the best wall-board withstands three hundred pounds, so that a knock which would punch plaster will not damage wall-board. Should an exceptionally severe accident occur, one panel is easily removed and another substituted, obliterating every vestige of the damage. Plaster cannot be patched so that it will not show. Whitewash or paint does not conceal it; only wallpaper will, and on a ceiling it is highly undesirable.

To apply wall-board is a simple carpentry job. Clean, of light weight and easily handled, it cuts with a smooth edge like a piece of soft pine lumber and sands like wood, without fluffing,

when a smooth, enamel surface is desired. Being readily worked to odd sizes or shapes with a fine-tooth saw and a sharp knife, no other

work headers must be inserted where the studs are not properly spaced, so that each panel may be nailed securely on all four sides and through the center. Leave one-eighth inch between panels for possible swelling in damp weather, these spaces being covered by decorative strips or mullions of wood or wall-board. Brick or stone walls may be lined with wall-board when furred as for lathing.

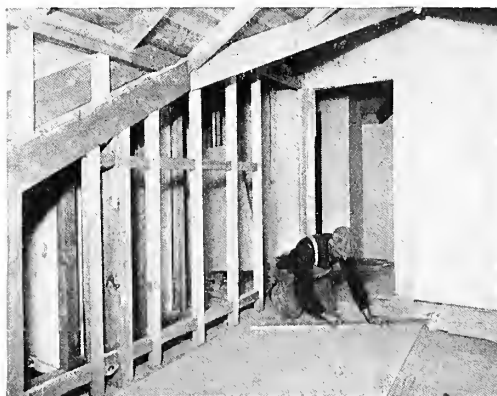
Wall-board naturally takes the form of panels, a scheme of decoration as old as art itself. In this respect it does not differ from the use of wood, steel or certain applications of plaster, particularly decorated plaster. Panels permit great latitude for effective treatment along either conventional or original lines: the possibilities seem to be without limit. Panels of any size or proportion may be employed with a simple cove- and picture-moulding or plate-rail, or in combination with a frieze or wainscot or both, whereas a beamed ceiling lends dignity and refinement to a large, high-studded room. The application of appropriate stencil work to the frieze presents a wide range of possible effects as beautiful as they are unique and distinctive.

Wall-board should be painted before the panel
(Cont. on p. 457)

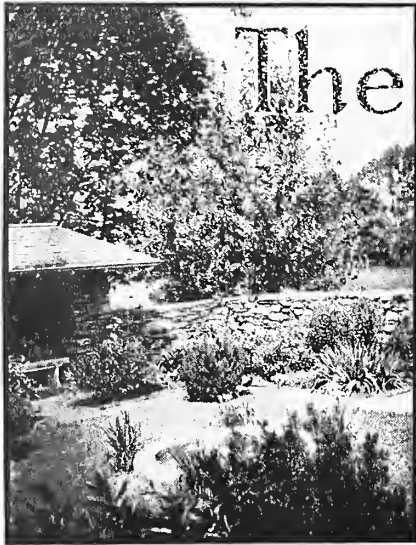


In the bedroom the battens and wall-board were painted white. Flowered cretonne at the windows give a touch of color, and the room is restful and sufficiently pleasing for a summer cottage

tools are needed except a hammer and nails. The board is applied directly to the studding of a new house—no lathing being necessary—or over the plaster of an old house being remodeled, and nailed around the edges and through the center with one-inch nails. Flat-headed barbed nails are preferable for the edges, and wedge-head nails for the center, the latter being countersunk and the depressions puttied. For work over old plaster two-inch nails should be substituted. On new



The various sorts of plaster or composition board are a reasonable and efficient substitute for plaster. They may be applied directly to the studding and, if battens are used over the joints, successful approximate paneling is realized. They are ready for use and need only painting, but the directions for cutting should be carefully followed



A wall constructed of field stone laid dry surrounds the flower garden

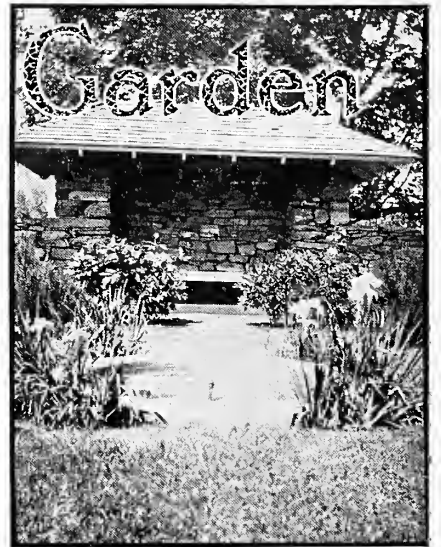
The Fore-court and Garden of a Farm House

A NOVEL TREATMENT THAT WILL LEND DIGNITY TO THE SMALL COUNTRY PLACE—THE USE OF ROUGH STONE WALLS—WHAT PLANTING TO USE—ARTHUR A. SHURTLEFF, LANDSCAPE ARCHITECT

ELSA REHMANN

THE house stood in the midst of fields in a small community in Massachusetts not far from Boston. The walled-in fore-court or dooryard

great tree with its enormous spread of branches. It dwarfs the house and creates thereby the homey impression so often unconsciously attained in



The hooded, walled-in seat is reminiscent of English cottage gardens

was designed to separate the house grounds from the wide farm lands on every side.

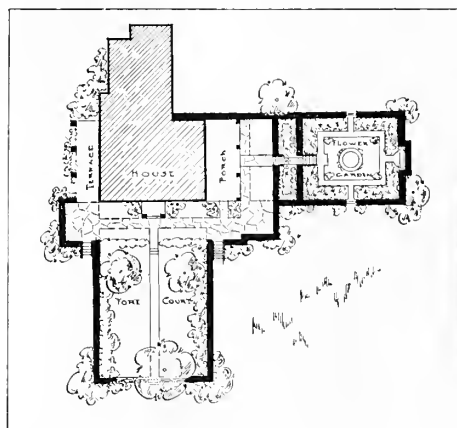
It is an approach or introductory passage from the road to the front door. The drive and roads to the barns are thus separated from the main entrance to the house. It is a well-kept, graded place. The stone walls make a strong dividing line between the smooth lawn within and the sloping rougher ground without. The rough field stones found in the immediate neighborhood, if not actually on the place itself, made a wall which was comparatively cheap as well as one which is in keeping with the farm surroundings. The picket fence in front is harmonious with the Colonial character of the house.

Ampelopsis is growing over the wall to soften the surface. Lilacs are massed at the corners near the road, mock-oranges are grouped near the entrance gate and poplars are placed in two balancing groups just outside of the wall near the corners of the house. These shrubby groups break the stiffness of the wall.

At the entrance gate stands the



At the entrance gate stands a great tree, with its enormous spread of branches. It dwarfs the house, but does not demand a sacrifice of light



The fore-court is an interesting free interpretation of an old Colonial garden form

ing plants whose color will be refreshing against the gray of the stone.

As the front yard is considered merely as an approach—a place to walk through—and not a garden to linger in, it is essential to make it simple enough in arrangement that it can be grasped in its entirety at the first glance.

Groups of lilacs, so familiarly associated with every farm house, are placed upon either



side of the front porch. The hedge along the front of the house on the other side of the path separates the immediate house front from the fore-court proper.

This fore-court, placed there to conform with the Colonial style of the house architecture, is an interesting free interpretation of an old Colonial garden form. The front doorway garden, as it was found in old New England and still very sparingly found in some conservative communities, is a form derived from the English fore-court, of which the English dooryard garden is a humbler, more intimate and less formal expression.

The front fence stood near the road, the side fences extended back to the corners of the house. It was therefore rectangular in shape, taking its dimensions from the width of the house and the distance it was placed back from the road.

At first the enclosure of the Colonial fore-yard had a purely practical reason for existence. It preserved from the inroads of cattle a little clearing where the housewife could grow a few flowers. But soon it became something more. There was an attempt to create a little air of formality for the approach to the front door. There was a nice striving to separate the small orderly garden from the rougher fields and big expanse of surrounding country.

These same reasons inspired the repetition of this Colonial garden form for this country house. In its simple arrangement there is a message to every dweller in rural communities, a suggestion of how to reinstate the farm house to its former dignity by appropriate garden surroundings.

These front gardens are found not only on old New England

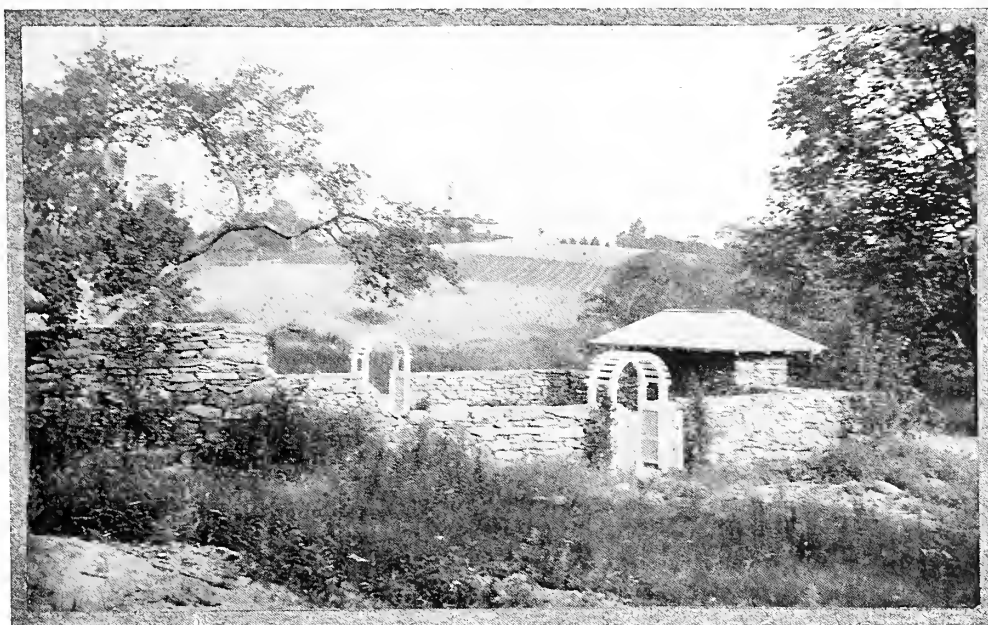
farms, but in old New England villages and towns. This smaller and simpler form has a message for every suburban dweller. It shows how to give the approach to the front door a certain nicety and reserve by separating it from the service walks and drives as well as from the street. The enclosed front garden would regain its former privacy, its separateness from the street, and become again our individual expression of welcome to the house.

To one side of the house the ground slopes off quite steeply, and on this slope a small garden space was won from the surrounding farm lands.

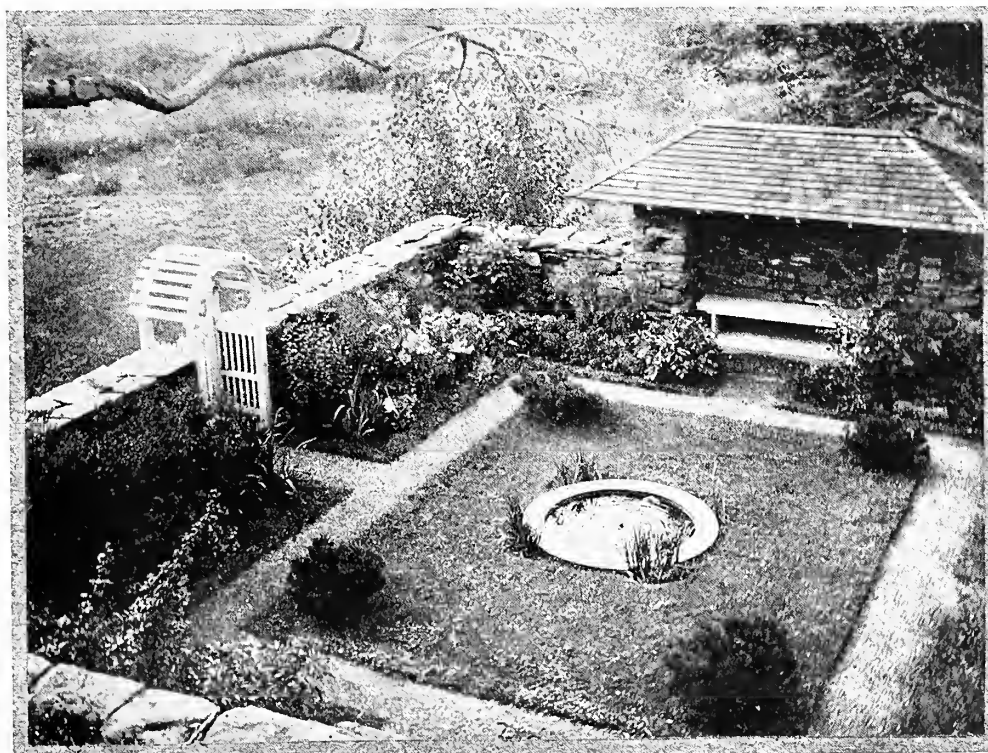
There are three levels. Highest is the terrace just outside the living-room porch. Going down five steep stone steps we stop on a narrow walled strip not more than ten feet wide, where

roses grow and tumble over the wall. Down another five steps, and we stand in the garden proper. It is a very small garden, walled in with the same stone used in the enclosure of the forecourt. The enclosure is one of the main essentials of a garden, for by shutting it in, the garden is relieved from competing with the bigness of the surrounding country and its varied nature.

The trees overarching the wall add much to this enclosure. There is a charming hooded seat built into the wall which reminds one of seats in sheltered corners of English gardens. The two arched gateways make ample provision for getting around the grounds. Without them the garden might seem a little cramped. A round pool stands in the center of the garden. The gentle trickle from the jet of water makes a pleasant (Cont. on page 458)



By shutting it in, the garden is relieved from competing with the bigness of the surrounding country and its varied nature. The overarching trees add much to this enclosure



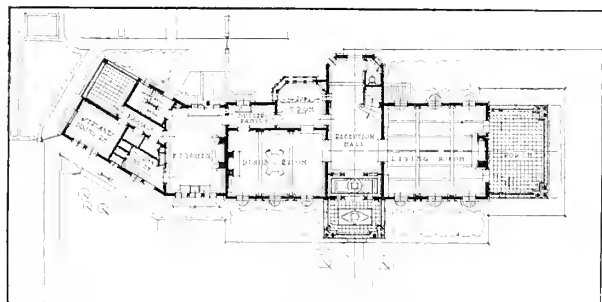
A round pool stands in the center of the garden, with four groups of Japanese iris. At each corner of the grass plot is a *Pinus mugho* specimen



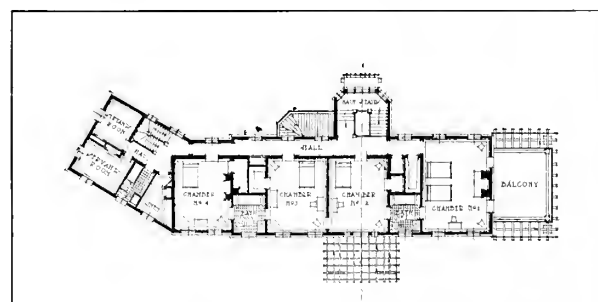


A perfect adaptation to the setting has been attained by making the general lines of the house follow the contour of the surrounding land. The treatment of the grounds has been closely studied, with a consequent enchanting harmony

THE RESIDENCE OF EDWIN H. BROWN, GROSSE POINTE, MICHIGAN



*George W. Graves,
architect*



Although divided into distinct units, there is an ease of access from one part of the house to the other. The isolation of the service department is well handled

On the second floor the house-length corridor is an attractive feature, especially since it opens directly on the main stairs that are at the rear of the building



Careful study of details has spelled success, as witness the pergola entrance and the trellis on either side which make the entrance a related part of the house



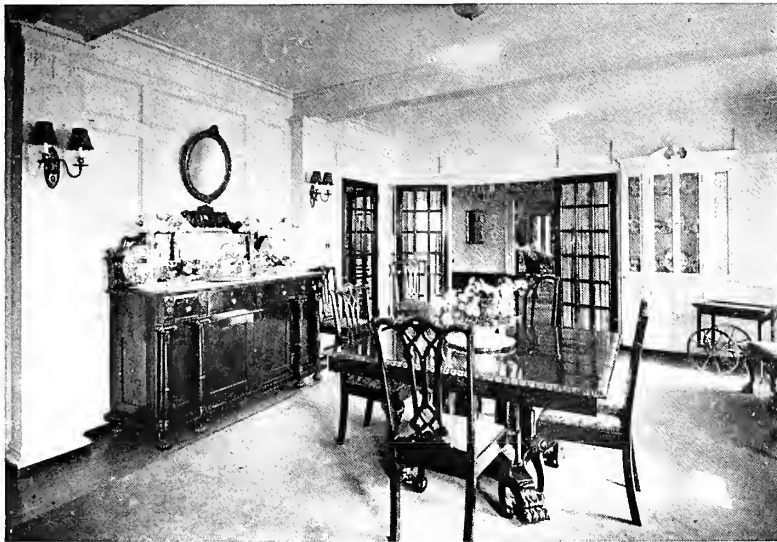
The same study has been applied to the interior, as shown by the living-room mantel and its flanking windows. Gaily-colored cretonnes brighten the room



Good proportions, good light and good paneling characterize the dining-room. The details of furniture and decoration are well chosen and arranged



White enameled furniture is always a safe choice for the breakfast room, especially if, as here, the walls are relieved with a flowered paper



Another view of the dining-room, showing the French doors that give access to the hall. The built-in china closet is an harmonious fitment

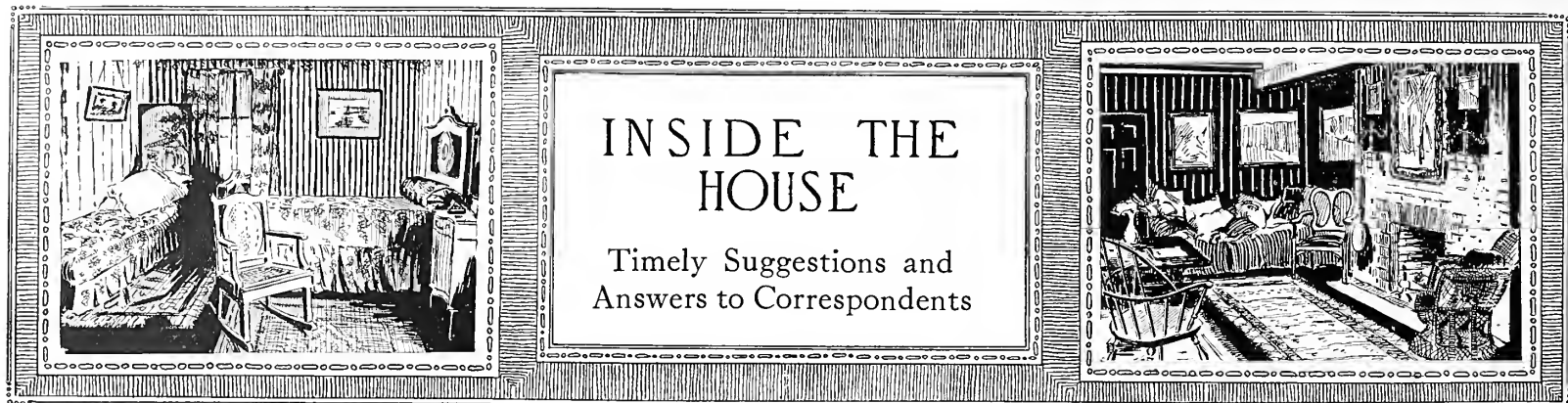


The hall runs through to the rear, the arch dividing the stairs and rear entrance from the front, which is a distinct reception hall



The proportions of the drawing-room make the beamed ceiling a distinct success. Moreover, the room is large enough to permit a diversity of furniture arrangement, as shown by the furniture groupings. Here, again, notice the effectiveness of the cretonnes





Up-to-Date Willow Furniture

WILLOW furniture always suggests a welcome, an invitation to stop and rest awhile. And this furniture has wonderfully improved in style of late. Intricate ornamentation and fancy basketry weaves are almost never seen now. Surely this is evidence of a fine artistic sense, that we are glad to get away from over-decoration to the things which suggest simple living.

With her plans for refurnishing the summer home or the year-round home, happily outside the city, the housewife always associates these fittings. Willow has a quiet, reposeful individuality that can take its place along with mahogany or other massive woods. It is charming for a single room and even for an entire cottage if chintz or cretonne cushions and hangings supply the essential splashes of color.

The pieces of willow furniture that are illustrated here are first of all useful, and their lines are artistic, simple and beautiful to the eye. They are distinctly practical in that each piece, separately or with others of like style, can be used in living-room or hall and then moved out to the

veranda when warm summer days bring their call for the outside. Those ease-loving ones who are not lured by the strenuousness of golf, tennis or such activity may just as surely live in the open with their favorite chair, book or sewing basket in a sheltered nook of the outdoor living-room.

Such constant and wholesome use of the veranda was impressed on me by friends who have a commodious summer home in Maine. The unusually spacious veranda, not unlike the old-time "gallery" of Southern mansions, extends around four sides of the house. There are two full-size dining tables, built especially for this outside living-room, one on the north-side veranda and one on the south veranda, so that on whichever side the sun shines too directly or the wind blows too strongly the family may dine at the other table and not lose one bit of outdoor joy. This has always impressed me as being one of the best-laid summer plans I ever knew. Picture the delight of having morning rolls and coffee surrounded by song birds and glistening dew, and the evening meal lighted by the glow of the setting sun!

In a dignified hall containing a few

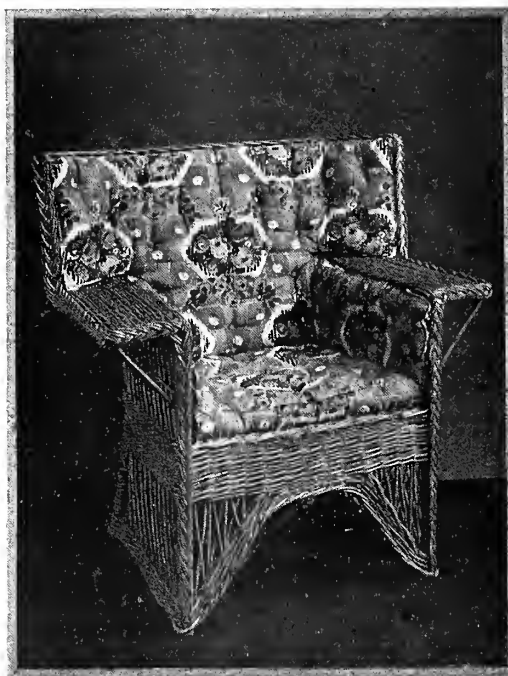
handsome pieces the introduction of the circular, three-part hall seat, which is here illustrated, would soften the austerity of the heavy, darker wood. The cushions are of gay-flowered chintz. Each separable part is a generously comfortable seat for two and, being very light, is often carried outside when the porch party receives chance additions about tea time. Many prefer to leave the willow unstained when it is used with mahogany. The contrast of the pale yellowish tone with that of the dark wood is far more effective than stained or painted willow in an attempted harmony.

The sweeping curved back of the arm-chair has the comforting width without the heavy looking height of the fireside wing chair. A brightly colored cretonne cushion lines the chair back, and another, deeper and softer, covers the seat. Inch-wide black and white striped linen or cretonne scattered over with bold futurist colored fruit and posies give handsome effects for cushions where the chairs are stained or painted and decided contrasts are desired.

A refreshment taboret is one of the new accoutrements from which a hostess may



The tea wagon is indispensable for porch living. Light in weight and easily moved about, it can be trundled even out on the lawn



Porch chairs should be wide, deep and well cushioned. They should also be light enough to drag about and upholstered with a gay fabric



The refreshment taboret is supplied with a stout handle, basket fashion. Stock it in the pantry and it can be readily carried to the veranda

dispense cheer to her porch guests and to her family as the members assemble toward the close of the day. It is supplied with a stout handle, basket fashion, so that it may be stocked with delicacies in the pantry and easily carried to the veranda. The top of the taboret is divided into compartments for tea glasses or wine bottles (or ginger ale), hence no sliding or spilling, and the lower shelf is reserved for such things as the sandwich plate, wafers, lemon and ice bowl. Somehow this taboret for cooling drinks seems to suggest even less formality than the tea wagon. Perhaps the wickerware and the basket handle make one think of a sort of picnic luncheon. But the tea cart has its own special appeal, and the illustration shows a design in willow that will be a delight as well as a convenience among other summer fittings for the hospitable hostess.

The artistic Chinese bird cages that are seen in various art collections no doubt have been the source of inspiration for the attractive willow cages that American craftsmen are now making. These beautifully wrought bird houses are a glad change from the gaudy gilded affairs that sheltered our feathered songsters for so long. Varying degrees of architectural skill are noted among them, and the tall standard from which the cage is often hung contributes to its beauty by bringing it into relief from wall or surrounding objects. The cage and standard here illustrated are of unusually attractive design which adheres to strict simplicity of line. These cages are large and small, to suit the many sizes of birds, and some of the more expensive ones are tinted in shades that exactly blend with those of its feathered occupant.

Answering the need of a table and of a writing desk is the corner table, the desk part being evidenced only by the compartments for stationery. Abundant room is provided for current papers, magazines

and books. This, too, is at home and is harmonious on the porch as well as in living-room or bedroom.

A bowl of gold fish or a vase of flowers, always in clear glass, on the hour-glass taboret gives a delightfully decorative effect because of the thick glass top instead of the usual one of woven wicker. A



The latest form of teapot is so constructed that the tea can be properly brewed and then turned so that the leaves are held in the upper compartment

dainty teacup, in fact any lovely object that is placed upon the lake-like surface, lends additional beauty to the taboret.

Since the Victrola is used so much for dancing, many people buy the less expensive kind without the stand. To supply this need there is the wicker stand on wheels and with compartments for the records. The result is a Victrola and stand for the country cottage or dance room at comparatively little cost.



A triple seat of wicker is especially attractive in the hallway, where it will be found perfectly congruous with the heavier furniture



Give the bird an airing! For the corner of the porch, what could be more useful and decorative than a cage and stand of wicker



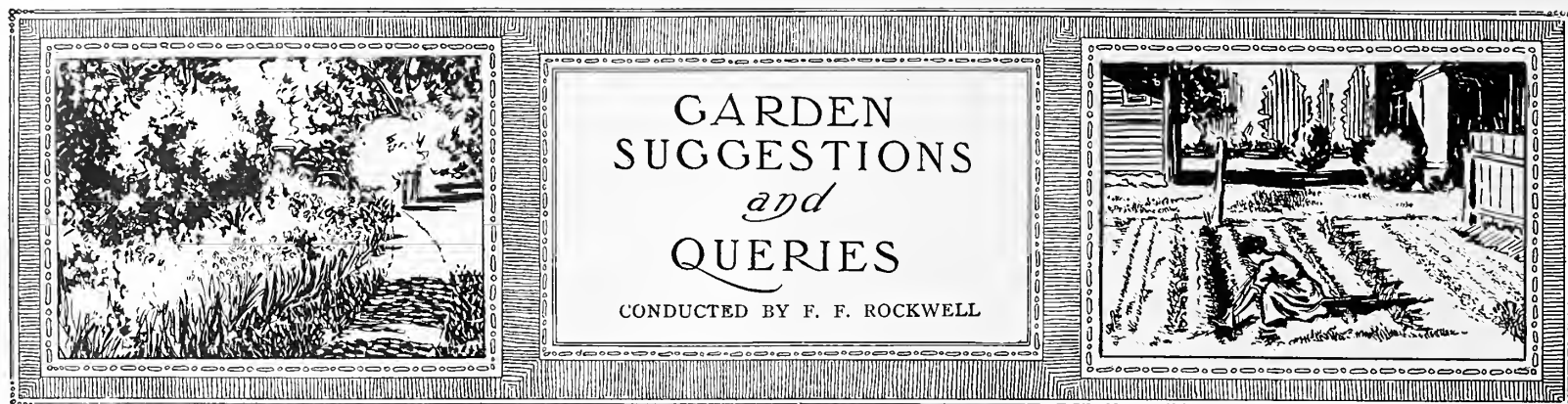
Staunchly built and with a glass top, this wicker stand will prove perfectly serviceable and decorative both inside and out of the house

Arranging Pictures

MANY housewives make the mistake of thinking that a good picture will look well in any place and in any style of frame. Others recognize the fact that a fruit piece looks well only in the dining-room, and that pictures of authors belong in the library, or wherever books are kept. Even when the subject of the picture is in accord with the room, such particulars as the angle at which the light will strike the picture, the height to hang it, the background and the kind of frame must be considered. Few pictures can be shown to advantage against a large-flowered, highly colored wall paper. Test out the pictures and see which ones are most effective hung flat against the wall, for tilting destroys the high lights in some pictures. Find out whether the light will make a glare on the picture, making it almost invisible at certain hours of the day. Notice, too, whether shadows in the pictures point away from the light, as would be natural. Two hooks are better than one for hanging, avoiding the break in lines caused by having the wire come to a point on one hook. Many things go to make up the study of picture hanging, but once understood, pictures seem to take on a new meaning and value.

A New Teapot

A HOUSEKEEPER'S supply of china and tea things is like the collection of an art connoisseur in that neither is ever complete. And here is illustrated an odd teapot that will put another temptation in her way. There is a perforated compartment at the top for the tea and the water is put in the lower part. Then the pot is tilted over on its back, resting on the tiny legs while the tea draws. When strong enough, the teapot is turned upright again and the tea is drained off the leaves.



Summer Care of the Lawn

ONE important job which requires weekly attention throughout the summer is the care of the lawn. Many persons make the mistake of keeping the lawn too closely cut, with the result that in dry weather the grass roots are exposed to the baneful influence of the hot sun and of drying winds. Cut your lawn frequently, but do not set the machine too close. To keep the lawn looking clean at all times have a grass-catcher attachment on the mower. A careful watch for weeds on the lawn should, of course, be kept. Cut them out well below the surface with an old knife as soon as they are large enough to be seen. A roller on the lawn is advisable, but it should be used judiciously. Lawns that have been rolled for a long time are likely to become over-rolled; there is "surface cohesion" or close packing of the top of the soil, which prevents the admission of air and healthy root development. The remedy for this condition is the use of the spiked tamper. A home-made one which will answer the purpose may be made by taking a piece of 2" plank some 12" x 12" and inserting 4" spikes an inch and a half or two inches apart. It is better to bore holes a little smaller than the spikes before driving them in to prevent splitting the wood. Perforate the whole surface thoroughly with this, give a top dressing, lightly rake it in and water the whole thoroughly late in the afternoon. For an excellent summer top dressing mix a bushel of good garden soil and a bushel of natural humus. Spread out in a low, flat heap, add a mixed dressing of high-grade lime and mixed fertilizer or of bone with a couple of handfuls of Nitrate of Soda. Mix this thoroughly and let it stand for a few days. Pulverized sheep manure may be used in place of the fertilizer. In this case use several quarts to the two-bushel heap. Mix this thoroughly and let it stand for a week before using. Sprinkle this lightly over the lawn, adding seed to the bare spots, and give a thorough watering, following with a rolling as soon as it has dried off.

Constant tillage during the growing season is also essential; never let your soil

form a hard surface crust, as it prevents the air from penetrating the ground and thereby retards the growth of your plants.

The presence of humus in the soil, in the shape of well-rotted horse manure that has been finely pulverized, is of great assistance in the prevention of surface crusts. The natural manure being largely humus (decayed vegetable matter) is of vital importance in maintaining and increasing the fertility of the soil.

Humus is essential to plant growth, and the action of the soil towards moisture holding, heat, light and penetration of the roots is greatly influenced by it. The mechanical cultivation of the ground is more easily accomplished where humus predominates. All the plant foods—nitrogen, phosphoric acid and potash—are more or less controlled by humus. Well-rotted horse manure is extremely valuable for the available plant foods it contains, including bacteria, those micro-organisms

that have the power to take nitrogen from the air and convert it into an available plant food. Bacteria also store up surplus supplies of nitrogen in the form of nodules on the roots of leguminous plants. It is conceded by all growers that rotted horse manure is invaluable in properly preparing the soil when a garden is contemplated, to insure good results.

Care of the New Asparagus Bed

Do not let your taste for this delicious vegetable tempt you to keep on cutting from the new bed. Though an occasional dish may be had the second and third year after planting, the cutting should be very limited, as the plants have not yet reached maturity and established themselves sufficiently to withstand the strain upon their vitality which is made by continuous cutting throughout May and June. Stop cutting early, and then remember that you now have to begin to grow your crop for next spring. Cultivate between the rows thoroughly; give a good dressing of manure or fertilizer and work it in, and be sure to get all the weeds out from between and around the plants with the hand hoe. The result should be a vigorous growth of beautiful, feathery, green stalks which will shade the ground, so that you will have little trouble with the weeds during the latter part of the season. If the asparagus beetle puts in an appearance, spray thoroughly with Arsenate of Lead. This, if used in time, will be effective.

The same treatment accorded the rhubarb patch, which is usually one of the most neglected spots on the place, will result in your being able to gather next spring stalks which will make you realize what the quality of rhubarb really is when properly grown. The small, stringy stalks from overcrowded, neglected plants, which one generally sees, absolutely fail to do justice to this truly delicious vegetable.

Another summer job which demands attention about the place is pruning. The spring and fall prunings are, of course, the most general, but there are a number of things to be looked after through the summer. The rambler roses, for instance, which are usually well through blooming



A window arrangement that will permit access to the flowers and yet prevent insects from entering, can be made in this way from mosquito netting

towards the end of this month, should be pruned as soon as the blossoms go by. If the plants are beginning to crowd, cut out the oldest canes and trim out some of the others. Such shrubs as flower before mid-summer should also be put into shape as soon as the blossoms go by. The pruning given will depend very largely upon the way in which the plants are being grown, and whether they have been neglected during the past few years or not. Most shrubs which are given attention every season will require very little actual pruning, especially if they are planted close together or in mass. Individual specimens should be cut back and trimmed up so that they will grow in symmetrical shape. The pruning shears can be used to advantage also among many of the flower beds. Such things as dahlias and chrysanthemums, asters and other branching plants which, if left to themselves, are apt to bear a large number of medium-sized flowers. For big blooms cut off more or less of the side growth, and also to obtain the very biggest blossoms disbud the stems on which you want them, leaving only one or two buds to each.

Arrange Now for a New Strawberry Bed

The way to have strawberries to perfection is to set out a new bed each year. If the varieties you have are satisfactory, you can just as well supply your own plants for this purpose. As the old bed ceases bearing, cultivate out between the rows and get the soil into good condition for the new runners to root in. The way to get the best plants is to sink a small pot under each of as many runners as you want to plant, and hold the runner in place over each with a clothes pin or a small stone. As soon as the plant has rooted set out the runner just beyond it and also sever it from the parent plant. Plants grown in this way will be fine, strong and well rooted and can be set out in late July or August.

If the bed has shown any sign of blight

or rust spray any that are to be kept over through the winter, whether they are old or new plants, with Bordeaux mixture. Buy a few of some of the fine new varieties, such as Early Ozark, Chesapeake, Early Jersey Giant and Late Jersey Giant and Fendall. Even if you only get a dozen or so of potted plants they will give you some fruit next season and an abundance of plants to set out next year.

Save the Water in the Soil

During the hot, drying days of June and July the soil moisture evaporates with astonishing rapidity. This is because minute holes or tubes form in it through



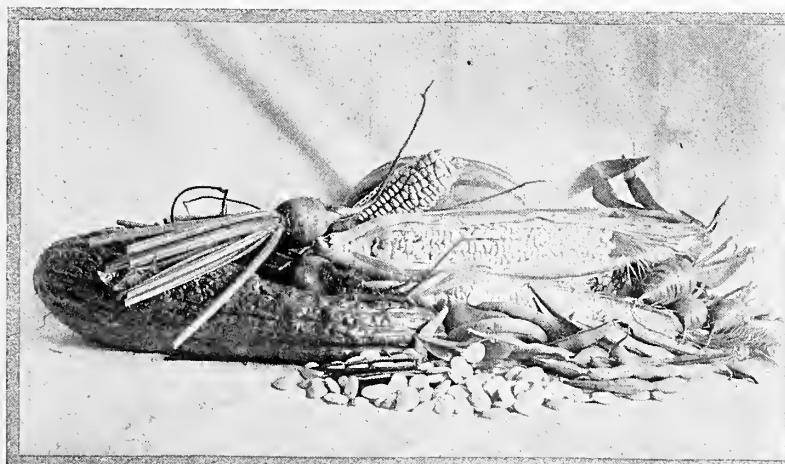
Parsley sowed the second week in June makes a thick bed before the warm weather is over and will thrive until November

which the water is brought up from the lower layers to the surface by capillary attraction. You should plan to get over all of your garden, flower beds and every bare surface in which things are growing as often as possible, at least once in every two weeks—and if you can make it once a week so much the better. Stir the

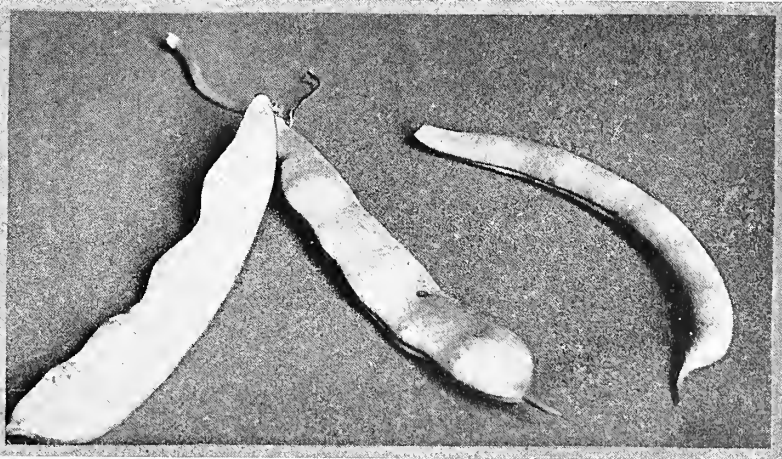
ground lightly, using the scuffle hoe, wheel-hoe, or hoe, as conditions allow, to keep the surface an inch or so finely pulverized and as dry as possible. This "dust mulch" serves much as a dressing of straw or manure would over the surface in keeping the ground below it moist, and in preventing the waste of water from surface evaporation. For working around plants and flower beds where the wheel-hoe cannot be used there is a hand hoe made which has a number of teeth with broad, flat points instead of a regular hoe blade. This is a very handy and efficient little tool and will prove to be one of your favorites throughout the season. In using the wheel-hoe substitute the hoe attachment or the rakes for the cultivator teeth and work shallow, stirring an inch or so of the top soil. If you have a weeder attachment use that in addition. For crops that have begun to fill up the rows so much that they can no longer be "straddled" by the double wheel-hoe use the single wheel, and when even this cannot be got through the rows without injuring the plants, use the scuffle or push hoe; if no weeds have been allowed to grow you can get over the ground with this almost as fast as you could with a wheel-hoe.

Watering

No phase of gardening has undergone such radical development during the last few years as that of applying water. The old methods of attempting to "water" the garden by hand with an ordinary garden hose was next to impossible and in many instances resulted in actual damage instead of benefit. It not only consumed an endless amount of time in handling the hose nozzle and dragging the hose about, but was extremely wasteful. Three distinct types of apparatus for applying water to a considerable area at a time, almost automatically, have been developed. First, there are several new "sprinklers," each so far ahead of the old lawn sprinklers that they are in a different class. They may be used either singly and moved about, or in a series and kept stationary.



An example of June planting and autumn reaping: squash, corn, beans and carrots all planted early in June



String beans can be planted as late as the second week in June and be ready for picking six weeks later



EDITORIAL



MAINLY ABOUT DOGS

THERE must be something radically wrong with the man who does not like dogs. Probably he has never in his life known and loved a dog, or—and this is worse—probably he has never had a dog know and love him.

Entering upon summer we come to that season in which dogs play a distinct rôle, when the dog looms large in our out-of-doors life. For it must be said, in all fairness to the dog himself, that he rightly belongs to the out-of-doors: to keep him in a city apartment is to keep him in prison. And just because he plays this leading rôle in the life of the house and the garden have the pages of this magazine been opened from time to time to him. In the months to come there will be even more about him, because more and more must we acknowledge that a dog is as much a part of the country house as the furniture, as necessary to the pleasures of children as Uncle Remus and Robinson Crusoe, as indispensable to grownups as chairs to sit in and books to read.

Among the papers found recently in the attic of an old Philadelphia house was a faded account book containing various and sundry entries covering the space of a hundred years. The entries were the names of the pets the family had had in those generations. Here were listed the horses, their names, histories and the dates of their departure from this sphere of activity. There were listed also the pet sheep, a tame crow, several turtles, a few cats, and—most important of all—an imposing array of dogs. Looking over this unique record one could visualize the simple family joys of those ten decades, the contributions of fidelity and watchfulness made by these dumb things that, having served their masters with unswerving faith, were, like their masters, in good time laid to sleep.

Now, save the horses, there was very little mention made of pedigree in that list. And this leads one to marvel at the manner in which human fads and fancies create or destroy the popularity of breeds. One wonders, do the fashionable folk who affect dogs to-day do so because they like dogs, or because they like to be seen with certain breeds of dogs? Do we like dogs for their own sakes or for their pedigrees? Do we cherish them for their fidelity, or for the *réclame* their owning reflects on us? Meanwhile the dog, with a fine sense of the necessity for keeping his place, continues to look upon his master as his liege lord and god.

In his essay on "Our Friend the Dog," Maeterlinck has said many true and beautiful things. By leading the reader into the thoughts and speculations those kindly creatures may have about their masters and their masters' lives, he has opened many an avenue of pleasant reflection. The thought that remains most vivid after reading the essay is that in which it is said of the dog that he is the sole creature of the lower orders which has striven to bridge, through kindness and courage, the great gulf which lies between man and the dumb beast. Now, that very getting close to dumb creatures is one of the main purposes of country living. We all need it from time to time. In the cities we live with brick walls and paved streets and trolley cars and other men and women. In the country our feet tread a path to a new world and we enter into cities where men do not dwell. Lord mayor of those strange municipalities, the dog flings wide the gateway to us, bids us enter, gives us the freedom of his cities. A guide to another world is that four-footed friend. Perhaps that is why so many of us cherish his friendship.

What the dog thinks of us, can, under our present limitations,

be only a matter of conjecture. What we think of the dog, on the other hand, can be quite a salient factor in our lives. According to the attitude a man holds toward his dog can you judge his attitude toward men and women, for the same loss of temper that would make him cuff a dog would make him cuff his child. The dog then stands as an indicator of our relations with those who, either through age or station, are subject unto us.

"Love me, love my dog." Never were truer words uttered. The gruffest of men changes face if you love his dog. To some it is even: Love me, love my hero, as could many a wounded soldier attest these days and many a Belgian mitrailleuse crew.

Whether or not dogs have souls—a question often prattled over teacups by otherwise unemployed minds—need never come into one's calculations. That eminent divine John of Patmos is the authority for saying that without the gate of Heaven are dogs, and he also lists with the canines some very undesirable though picturesque folk. Doubtless he had once had a regrettable encounter with a scavenger dog of the type that runs amuck all through the East. Doubtless there are many who would choose the company of their dog to the company of many types of persons who are listed as being on the inside of the aforesaid gate. That need never bother us. This we know, however: soul or no soul, the same forces that impel a man often enough impel the dog—and vice versa. Despite his much-vaunted soul and spirit, man is not raised so high above the dumb creatures that an appreciable amount of his fidelity and tenderness can be attributed to a power other than those animal instincts which impel the dog to be faithful and tender. The same instincts that bid us preserve ourselves and our generation from harm and destruction, that make us work for food and shelter, that make us play, cause the dog to fight for us and for his own, cause him to cherish the choice bone, cause him to dance and run with joy.

The Russians, it would seem, are the only race that has considered the services of dumb beasts of sufficient worth to make them an object of prayer. Of all the liturgies, the Greek Orthodox alone gives them a place. The prayer, beautiful in its simplicity, is as follows: "And also for those, O Lord, the humble beasts who with us bear the burden and heat of the day and offer up their guileless lives for the well-being of their countries, we supplicate Thy great tenderness of heart. For Thou hast promised to save both man and beast, and great is Thy loving kindness."

Among the men least given to sentimentalizing is Rudyard Kipling, yet he it was who penned the stern admonition: "Don't give your heart to a dog to tear." The warning might seem needless, were it not a fact that most of us do give our hearts to dogs, and that eventually we know what it is to experience a heart wrench over our separation from them. We can see our grandmother's chair carted off to the limbo of the dust-bin without a qualm, but we don't want to stay around the house on the day that the coachman delivers the *coup de grace* to a faithful old dog. On that day we may make a silent vow that we'll never possess another dog, and we suffer with tight collars for some days after. Then—wonder of wonders—our vow fades into nothingness, and, before we realize it, a new dog is prancing his way into our hearts!

There is no overcoming the persistent friendship of a dog. We capitulate before the siege has begun. The dog has his place in our out-of-doors life, and the only way to enjoy that life to the fullest is to share it from time to time with him.

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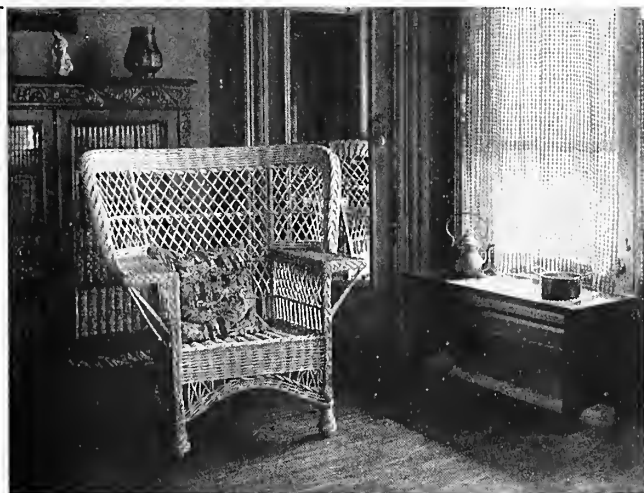
also means absolutely waterproof walls. And waterproof walls mean dry interiors.

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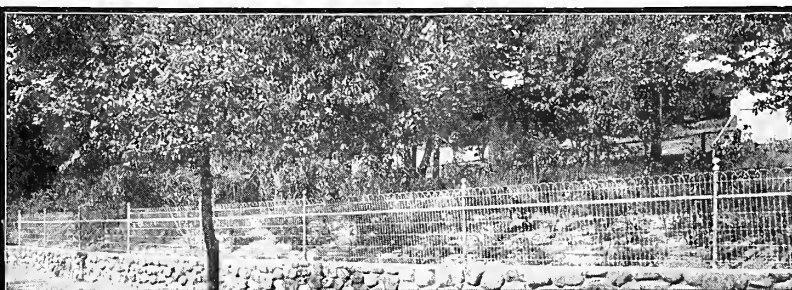
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Only real tree surgery can save a tree of this type from eventual destruction!

On nearly every place there are some trees of this weak crotched type. There is only one safe thing to do—have them examined and attended to *at once*. Every wind splits a weak crotch a little further. Decay eats its way from this split down through the trunk. It becomes weaker and weaker and then—crash!—the tree is ruined. See picture at left which is typical of millions of trees.

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Real Tree Surgery is Davey Tree Surgery

Davey Tree Expert Co., Kent, O. Gentlemen:

I want to tell you how pleased we are with the work done by your representative on the trees on this estate two years ago.

Unfortunately, these trees had been worked on four or five years ago by some New York concern. After their work had stood two or three years, it proved to be absolutely worthless. The decay had continued to eat its way behind the fillings and many of the fillings were broken and in bad condition, proving their work both unscientific and mechanically wrong.

Just about two years ago, we engaged your concern to do the work all over again. We were highly pleased with the work at the time because of its apparent perfection, both scientifically and mechanically. But, now, after a lapse of two years, I can say to you that this work done by your men is absolutely perfect. It is, in my opinion, a model of tree surgery. I cannot recommend it too highly nor express too strongly our appreciation of the great service rendered in this connection by your admirable corps of men.

JOHN T. BURNS, Supt. of the
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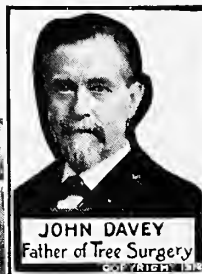
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—learn their true condition and needs from this expert source without obligation. Ask for literature illustrating Davey Tree Surgery.

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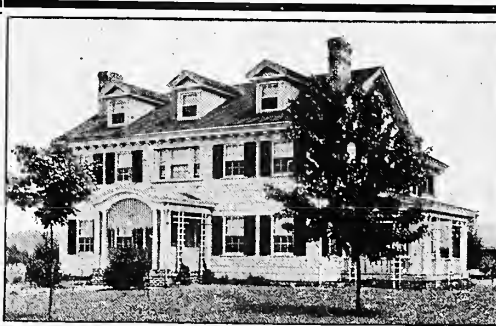
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which is as cool and brilliant and soft as new whitewash, and as lasting as paint. The stains are rich and handsome, and the combination is harmonious and appropriate.

You can get Cabot's Stains all over the country. Send for stained wood samples and name of nearest agent.

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Walls finished with Cabot's Old Virginia White. Roof finished with Green Cabot's Creosote Stain. See May House & Garden.
"We are using the same stains on other houses with equally satisfactory results."—Herbert Foltz, Architect, Indianapolis

The Choice of a Vacation Home

(Continued from page 410)

house. The stairs are often made to open directly into the living-room, thus doing away with the necessity for a separate stair hall.

The dining-room, if separate, should be planned to face the north or east, so as to obtain the morning, rather than the evening, sun and to be shaded at all events from the midday heat. The kitchen may be made as small and compact as a ship's galley, since many servants are a nuisance rather than a help to vacation life, while the pantry need only be large enough to hold the china-cupboards and sink. These two rooms should be placed away from the sun, and if there is a large tree to shelter the kitchen porch, so much the better. A cellar is seldom a necessity when no heater is desired, but often advantage may be taken of a sloping site to build one at slight expense. As a storage space for fuel and provisions it is worth including in the building of the house.

The bedrooms of the vacation home may be made smaller and less luxurious than those in town houses, since less waking time is spent in them, but they should be made bright and attractive with fresh colored hangings and rugs. On the other hand, there is an increasing necessity for bathrooms, which are welcome adjuncts of country life, and no pains spent upon their planning will be wasted. Shower baths are particularly appreciated after a hard day's tramp or a strenuous game of tennis and should be included in the bathroom equipment. Good ventilation of the sleeping quarters is essential and, more than that, the attic or roof space should always have openings to allow the access of the breezes. An appreciable lowering of temperature in the bedrooms will be noticed if this latter point is observed.

The decoration of the summer home has made rapid strides during the past decade and it is now as carefully schemed out as that of the town house. The latter has even taken lessons from country life and an element of freshness is being introduced into city interior decoration. In the country house no definite style need be followed if harmonious shapes and colors be selected. Indeed, one of its charms is the relief it gives to the eye from the studied decorative schemes of city houses. Furniture of willow or rattan may be combined with simple Colonial mahogany or with Tudor oak. An infinite variety of choice is allowed in the hangings; the wealth of English and Austrian chintzes and printed linens is remarkable. The walls to contrast may well be treated with distemper which has the color values of a pastel, or, if wallpapers be desired, the combination can be reversed and the hangings made of strong, plain colors.

It is quite possible to carry this same note of freshness and simplicity throughout the house, keeping all in perfect taste

and yet having a wide range of choice in fabrics and furniture. Of course there will be considerable variation in the interiors of each different type of house, since what would be appropriate for the furnishing of the mountain camp would scarcely fit the seaside bungalow, but for each problem one may find in the shops a host of suggestions.

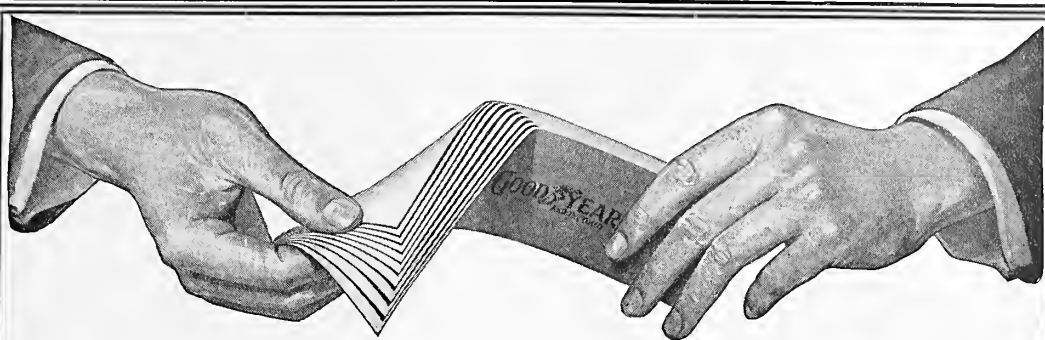
Not an unimportant part of the summer home is a garden, whether it consist of merely a few hardy flowers or be a place where in the cool of the early morning one may spade and hoe. In too many vacation homes the architectural appropriateness of a garden arrangement is not realized. It really may be made to be the connecting link between the house and the landscape and should be as carefully studied as the planning of the house itself. Even if it is merely the question of a few paths and shrubbery that need little or no care it is part of the design of the house and can make or unmake the final effect. It is manifest that nothing will ever compensate for the lack of a naturally advantageous site or that the untamed beauties of the country can be improved upon. But no matter how ideal the location, there must exist some evident connection between it and the house.

The building of a summer home is, even when reduced to its simplest terms, full of petty trials and vexations; but when all is finished and it is ready to move into, these are quickly forgotten, and after a time, and the weather beginning to mellow its new and raw appearance and to tone it slowly and gradually into its surroundings, it begins to take on a personality that is full compensation for the time and trouble spent in building.

Restoring in Less Than a Year

(Continued from page 415)

but when the beds were ready we put in the seeds or transplanted from boxes in which we had sown seeds requiring more delicate handling. Although we knew really nothing about gardening, we did know about color, and planned to have our colors massed in harmonious groupings. So our crimsons melted into rose and rose into paler pinks and blue, that seemed to have shadows of pink, and so on into the violets—the crimson and white phlox were alongside of the wonderful violet-pink of the stocks, the old-fashioned gilly flower and the rich blue of the Chinese bell-flower; the glorious Canterbury bells in pink massed with the crimson and pink snapdragon—along the fences and in the background were the rich yellows, orange and browns of the marigold and calendula with the tall artichokes and helianthus in the extreme back; against the heavy green vines and shrubbery were the stately hollyhocks and dahlias; in another luxuriant bed were poppies and bluets in such profusion they were begging to be gathered, the tall blue larkspurs with the little



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woodwork beautified with
Vitalite, the Long-Life White
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THE LONG-LIFE WHITE ENAMEL



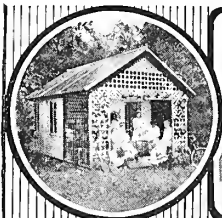
**"61" FLOOR
VARNISH**

dwarfs hugging their roots and alongside the sturdy foxglove with its luxuriant bed of leaves at the foot of the flower stalk, and so on through a lot of others.

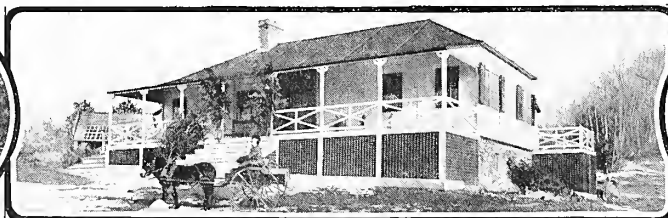
The pergolas and trellises were planned and completed, and at each post were planted pink rambler roses, so that in time there will be a bower of roses; but to make it beautiful this first year, we used the wild cucumber vine, which is more wonderful in growth than Jack's famous beanstalk. The wild cucumber seed must be planted in the fall, therefore, anticipating, we had put in quantities the previous autumn; when pergolas and trellises were ready the vines, just peeping out of the ground, were transplanted; over the top of the large pergola we put the large meshed wire, so the entire pergola was a mass of tender, beautiful green, making most delightful shade and softening the garishness of so much white paint. There was a tea house built, which in a short time was completely covered with the cucumber vine. The service yard was divided from the main part by a trellis of strips; on the inside of this we put tomato plants, which were trained up the trellis, and planted artichokes on the outside.

At the gate on the front street one stepped down onto a quaint attractive brick walk, not an ordinary brick walk, but made like stepping stones, arranged in squares of the lovely old brick which age had so beautifully colored, the bricks laid both horizontally and perpendicularly in twos with the short grass peeping up between. This led to and through one of the pergolas, giving quite an old-time air to the place. The other walks and drive were made of scallop shells, which crush easily, making a clean, well-drained walk.

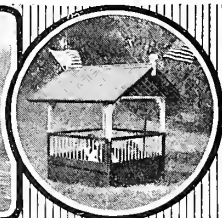
By the middle of June all workmen had left and we felt that we could take things more quietly. In looking over the place it seemed impossible that with the exception of the new kitchen, cellar and back porch, which were built the previous November, all the improvements had been made since the first of April—the interior alterations, repairs, papering, painting, inside and out, the pergolas, trellises and tea house built, painted and partly covered with vines—the ground graded, sodded, weeds removed, seeded and fertilized, the walks and drive completed. By July the garden was a mass of bloom and continued so until November. By August first, the pergolas were not only completely covered with vines, but a mass of feathery white bloom, some of the vines trailing far up into the trees and second-story windows. The quaint old house, painted white, with green blinds, the pergolas white with their green covering of vines and feathery bloom; the various trellises, the tea house, the rickety and unsightly old barn made beautiful by its generous covering of vines, the lawn, the flowers—it really seemed incredible that so much had been accomplished. Magic! some say; but it was



Play House



Bungalow



Sand House

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sheer determination, hard work and pleasure in the work. We secured possession of the place in October; in November the kitchen, cellar and back porch were built, but not finished; April first the workmen began again, and by the middle of June we were living in the house, everything finished and in order—the garden finished and in bloom!

Simplicity in a Suburban Home

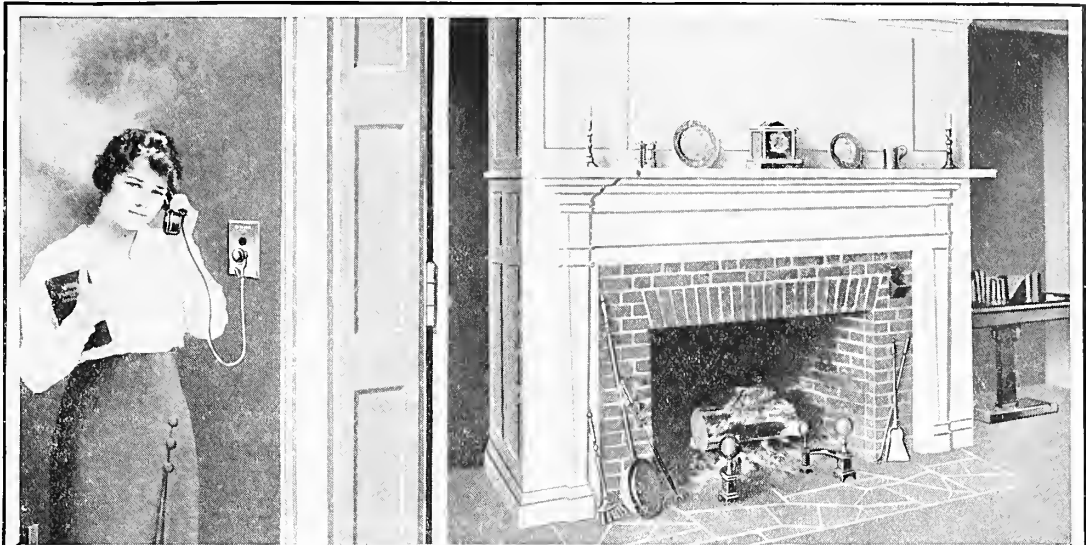
(Continued from page 418)

first requisite of a successful trellis room is a nice relationship, an interesting spacing of the horizontal and vertical strips.

This trellis room is a small room for a large house like this, where there are many rooms and plenty of space, but one can never use it without feeling what a boon it would be in many a house in lieu of the ordinary reception room. It has a cozy window-seat, with a high back and a broad window-sill in back of it with interesting double casements. It has an interesting wall treatment, suggestive of an out-of-doors atmosphere, appropriate as a setting for house plants and flowers. It has lovely soft colorings with which to delight the guest and a welcoming tea table. How much better, purer, truer, a little room like this is for the receiving of visitors—to whom you cannot offer the full hospitality of your house—than a room furnished out of all keeping with the rest of the house, in delicate coloring, in gilt and mahogany, with useless bits of ostentatious, inartistic bric-a-brac, like a survival of the old parlor traditions, with decadent gilt trying to keep up the royal tradition of the French Louis!

The Pattison house is rich in color suggestions. Its hall has dull, deep, gold Japanese burlap, a weave, finer and different from grass cloth, pressed in gold. The wood is stained brown, with here and there in a broad grain a wee suggestion of Pompeian green. The drawing-room has a deep green weave with black-stained woodwork, which is used with gold picture frames and other touches of gold throughout the furnishings. In the library the woodwork is black with a broad-striped paper of dull old yellow. The color of the dining-room, which is so placed that it is more or less a room apart from the more open hall and drawing-room, is silver. This is an unusual color to use in this style of house, but it just goes to show that you can harmoniously use any color if only you choose the proper shade and the right texture. Here the silver is a Japanese burlap and it is used with gray-stained woodwork. There is a very beautiful rug here with lovely rose color and blues in the pattern.

All the colors on the first floor of the main house harmonize, as stained wood, woven wall coverings, rough wall colors harmonize if used intelligently. There is no need to keep to the same color in a house, if you don't care to, but the effect



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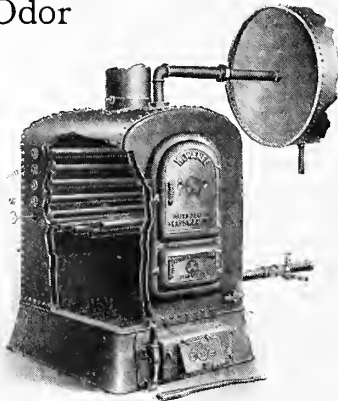
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Garbage is thrown into the upper garbage chamber and a small coal fire started on the lower grates. In a very short time the garbage dries and burns without odor.

Notice the by-pass (a patented feature of the Kewanee) which allows the flames to circulate around the garbage. This prevents the damp garbage from smothering the fire and insures the garbage being completely burned without odor.

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must be harmonious. This mixing stain in one room with a paint in the next, polished mahogany in one room with brown oiled furniture in the next, white in one room with paint in the next, is intolerable, for on the first floor, with its wide openings and interchanging vistas, colors must be used with the effect of the whole continually in mind.

In the service wing paint has been used throughout. Starting with the butler's pantry and the kitchen, a smoke-gray, suggestive of the gray scheme of the dining-room, has been used for the walls. It is oil paint with enough turpentine to give it a dull finish. You have no idea what wonderful finishes you can get with oil paint, what lovely soft colors, what dull finishes, what subtle effects by using one transparent color over another glazed body color. This last effect has been gotten in one of the upstairs rooms in the wing by using a transparent brown over a body color of rich golden yellow. In the kitchen and butler's pantry the top surfaces of the woodwork have been painted white and the sides of the wood suggesting the width have been painted black, a most effective scheme such as Austrians like Coloman Moser are fond of using. It is a curious thing that while the Germans and Austrians, for instance, and most of the European nations, are doing a great deal, and have done a great deal, for the past fifteen years in experimenting in color in the domestic interior, Americans have been most conservative. This gray and black scheme could be used with great charm throughout an entire floor of a small house because so many other colors could be introduced in the hangings, upholstery, rugs, flowers and furnishings in general. In the kitchen of the Pattison house designs of various kitchen activities have been stenciled in blood red upon the walls to make effective space division as well as a delightful color scheme.

My Suburban Garden

(Continued from page 423)

trees, made a wedge point for the entrance and return of this round turn. This gave an oval-pointed bed some twenty feet long, rounded at the rear end at twelve feet radius, which was all the land we could spare to it, and from the rear end of the curve ran out the drive to the barn. This radius worked out all right, even with a large coal wagon, and would accommodate a car of the smaller sizes by backing it once or twice in making the turn. To permit this without overrunning the rear lawn we widened the drive on the curve to eleven feet and, at that, got a car of ten feet wheel base around it without trimming off the edging sod.

With the drive laid out, the walks followed easily. Tradesmen must have direct and easy access to the back of the house or they will make their own paths, so we laid out two curved ones from drive to

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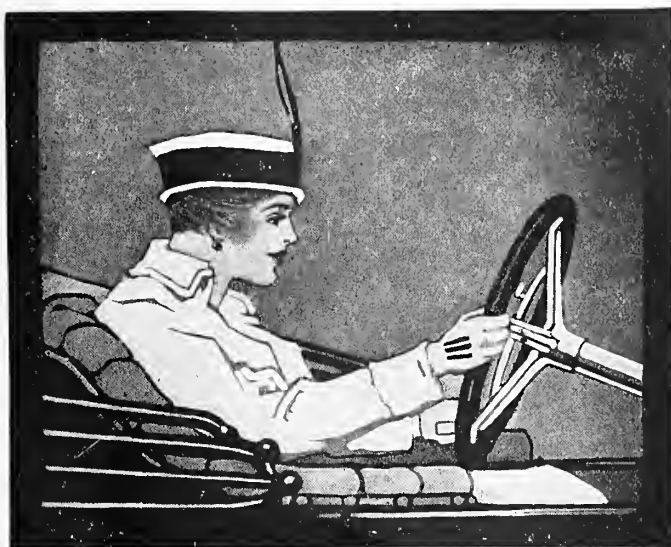
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rear steps and to the opposite side of the place for the benefit of the milkman and the grocer boy. The main central garden walk laid itself out naturally, straight out from the rear porch to the back of the garden. In the same way the direct walk from the street to the front door argued a straight path, concreted, with two steps in the top curve of the slope. This was originally in bluestone, but with the active feet of three children, the postman, and the wash of the rains, there was no living with it, and, after scooping it up off the sidewalk numberless times and redistributing it along the walk, I bought six bags of cement and several loads of sand and had the darkey lay it at a cost of six dollars—and was at peace once more!

While a straight, flat concrete walk, smooth-finished, with grooves across it at three-foot intervals, was within the abilities of my darkey as a mason, I felt that he could hardly undertake the complicated slopes and abutments of a properly-constructed concrete drive-in, so I had a contractor do this, for \$23. Such a drive-in should have a double slope towards a central gutter, both slopes grooved with inch, half-round grooves, spaced about eight inches; it should extend some ten feet up the drive, and, where it joins the curb, should have generous concrete curving abutments, so that incoming wagon wheels will not overrun it nor yet break off any sharp corners. The rest of the drive requires a foundation of ash or gravel, six inches deep, and on top of it an inch of fine bluestone or gravel. Bluestone is \$4 a ton, and an eight-foot drive will take a load of it to each lineal twenty-five feet, so it will run into money unless kept reasonably shallow, the foundation being of cheaper material. It will not do to tamp or roll the original soil down hard and then put on your stone, for weeds will assuredly spring up and they are very hard to get out of bluestone without hand weeding. Our ash foundation cost us 15 cents a load, via the colored human watermelon who held the proud post of garbage collector for the borough, and his total bill was \$4.50. The bluestone cost \$20, and we never had any trouble from weeds with that drive.

While all these operations were going forward the lady plunged into that most delightful—and expensive—occupation of accumulating shrubbery and flowers. Done all at once, it would easily stand you \$200 to make any showing on such a place, but with us it was a labor of love; and, little by little, in lots of some fifteen to twenty dollars at a planting, we got in our shrubbery in about three years. My rich neighbors simply left the whole matter to the landscape gardener of the borough, and paid the bill, getting the usual stereotyped setting. We could neither afford it nor did we want our trees in that way, for each one was bought at some sacrifice of other coveted amenities of civilized life,



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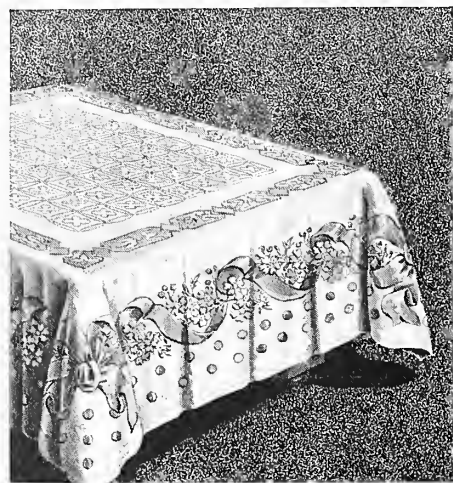
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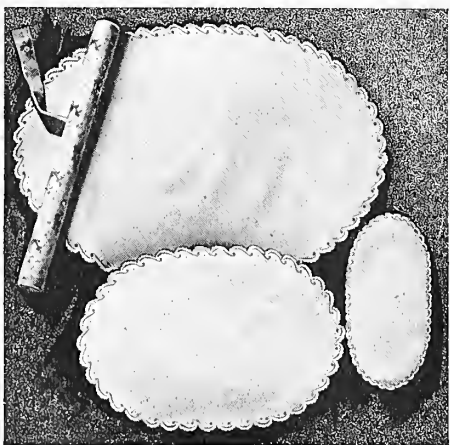
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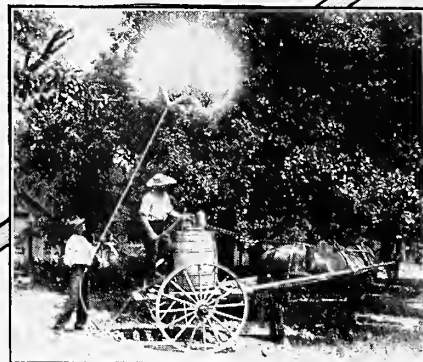
3 West 37th St. New York



such as theaters and clothes, and each was planted with our own hands, all the family taking part in the ceremony. What joys our neighbors missed, of the arrival of long boxes from the nurseries, of unpacking the beauties, of arranging them like furniture in a new room until each reached its own best location, they will never know, but we regard those plantings as among the most cherished memories of the growth of our place.

In a Dutch Colonial house the usual group of evergreens planted thick around the watertable is absolutely out of keeping with the style of the building. Our porch was a great red concrete expanse, 42 feet long by ten feet wide, and the top of the lawn sloped directly off from it at the same level. To plant evergreens around such a porch would be in the last degree banal. What was wanted was a few formal plants, just enough to embellish salient points, and for this what better tree than Holland's own glory, the box! The illustrations show how this feature was carried out; also the box window-gardens on the roof. These in Germany are often of flowing petunias, billowing down over the spotless white sides of marble window boxes. Our climate is not favorable to develop petunias as they are done in Potsdam, and annuals in a window box are more or less of a nuisance, besides not being visible during eight months of the year, so we chose the permanent decoration of small box trees, and arranged them in the design shown. They cost about twenty dollars altogether, but were well worth it because of the permanency assured us.

The first thing we needed around the place was some sort of hedge. We bought the inevitable—California privet. It is the cheapest and the hardiest fence ever invented. Barberry, if one can afford it, is beautiful, but its cost is out of the reach of the small home builder's means; the same is true of hemlock. Privet will cost you about \$22 for 400 feet of hedge, in three-foot plants, provided that you buy it from one of the great nurseries located in the South or up State, away from any large city. Privet will grow anywhere, sun or shade, any soil, unless it is swampy, and will even come to life in the most miraculous manner, if thoroughly dead from root starvation. Some of mine, that had given up the ghost in a swampy corner, bloomed afresh when the lawn mower grasses were piled against it—a most worthy instance of converting worthless waste into money! But do not load the bottom of your planting trench with fresh manure and put the privet directly on it. A neighbor of mine did this very thing, transgressing thereby one of the first rules of planting, which is that fresh manure will surely rot your roots. The result was that for two years he had a spindly and half-dead hedge until the privet could grow a new set of roots up near the surface.



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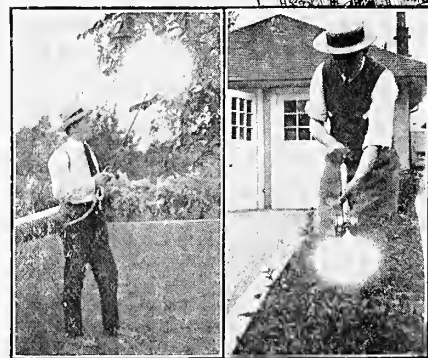


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Another temptation with privet is not to cut it back close to the ground after planting. It seems such a shame to cut off those long shoots that you paid so much for, and the beginner will usually cut them off about the height he wants his hedge to be, forgetting that the privet will send out *two* shoots from each cut, each one of them three or four feet long if you let them grow. You have then no recourse but to cut them off a few inches above the original cut or else let the hedge grow higher. How much better to cut them short near the ground, letting the two new shoots grow up that same year to the height you want it and *then* cutting it still back a few inches below the final height of the hedge. In this way you double the thickness of your hedge the first season.

With this privet order we bought four two-foot privet balls to plant at entrances of driveway and walk. These are formed in the nursery by trimming back a thick privet plant until it is one dense spherical mass of branches and twigs. It is very compact and hardy and looks well throughout the year. Cost, about \$1.50 a ball. On each side of the walk, half-way between the entrance and the porch steps, we put in two umbrella plants, *catalpa bungei*, costing 75 cents for six-foot specimens. They leaved out well the first year, forming perfect little knobs of foliage, very formal in effect, and are now perhaps two feet in diameter. They must be pruned back somewhat every year.

The logical place for evergreens on our place was in the two corners where the privet made an ell at each corner extending parallel to the sidewalk for perhaps fifteen feet. One of these reached as far as the drive entrance, twenty feet from the drive to the west hedge, so that quite a clump of evergreens was needed to fill in the corner. For this we chose a feathery, silver-green *retinospora plumosa*, a compact rounded cone some four feet high, for the angle of the corner; in front of it a blue Koster's spruce and a Japanese *retinospora*, and along the hedge a dense, bushy hemlock, a large biota and a four-foot Norway spruce. These, with a few little evergreens (two small, white cedars and a golden biota) filled the corner without crowding and cost \$9.75.

Carrying the eye back to the rose garden, along the hedge was, first, a plot of *rosa rugosa*, chosen because of its dark, glossy-green foliage, almost evergreen through all but four months of the year; next, a magnolia bush; and then the roses, twenty or thirty bushes, American Beauties, Mareschal Niels, Gruss Von Töplitz, etc. They bloomed the first year, and each June after that gave us enough roses to fill the house and leave lots outside to gladden the eye. Back of them the deciduous flowering shrubs curved out to the drive again, so that the west lawn was an oval, some seventy-five feet deep by twenty-five wide. Along the drive we put



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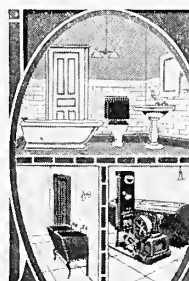

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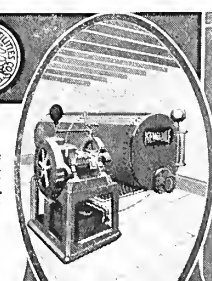
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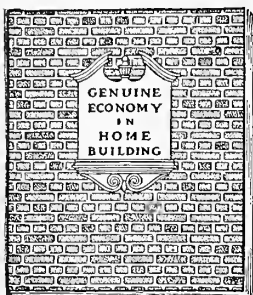
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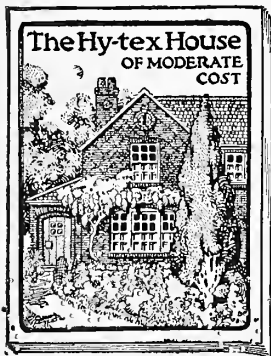
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four weeping mulberry trees, spaced about twenty feet apart. This gave us ample shrubbery for the west side of the place, and where to find sun for it was something of a study, for the glory of the place was the big forest trees left standing when the lot was cleared. We had twenty-seven of them, and, even with all the spindly ones taken out, those that were left to shade the house did not allow any too much sunlight for the grass and not enough for the roses.

Around the chimney base the lady decided to put her rhododendrons and English ivy. The chimney being on the west side of the house, and the west lawn having many large trees on it besides the forest wall, it got no direct sunlight at all. But both ivy and rhododendrons were intended by Nature to thrive in the shade, and with the one climbing up the chimney and the other surrounding its base we did very well with our greenery for it. The ivy plants cost 25 cents each, in little pots with perhaps two feet of vine; at the end of the first season they had climbed up five feet, and in the second season extended nine feet up the chimney. Rhododendrons at 75 cents to \$1.50 a bush went rapidly into money, for it took seven or eight of them to make any sort of showing around that chimney base.

For the central bed of the round turn of the drive we used three syringas, two barberry bushes, three roses, two snowballs and a transplanted sassafras from the forest. The sweet syringa or mock-orange is an old favorite, and it has the custom of growing very large in a short time, so that it wants plenty of room. Ours grew from small 50-cent plants to large bushes in three years, and bore flowers their second season. The barberries started as little 25-cent brooms, but spread all about, so that long, feathery shoots from them were well interlaced in the rest of the shrubbery.

We felt that the turn of the knoll at the end of the porch needed a little group of evergreens, not over three of them. These three ought all to be exceedingly ornamental and striking in appearance, and for them we chose a deodar or Indian cedar, a golden biota and a Japanese maple. It needed a little more filler, so I added a solid, feathery hemlock in behind the clump and a retinospora of the whorled plumage variety (there are a million retinosporas, all beautiful!) and the group was complete. The deodar is not hardy much north of Asbury Park, but it is a most beautiful object, a feathery-green fountain of a pale silver-blue green with needles as delicate as a larch. Ours has gone through five severe winters with no other aid than a board screen to the north-west and plenty of forest leaves piled around it in the fall. The golden biota is a small, compact, golden-yellow evergreen, with its leaves set on edge like the leaves of a book, always a striking note in any clump of evergreens in which it may



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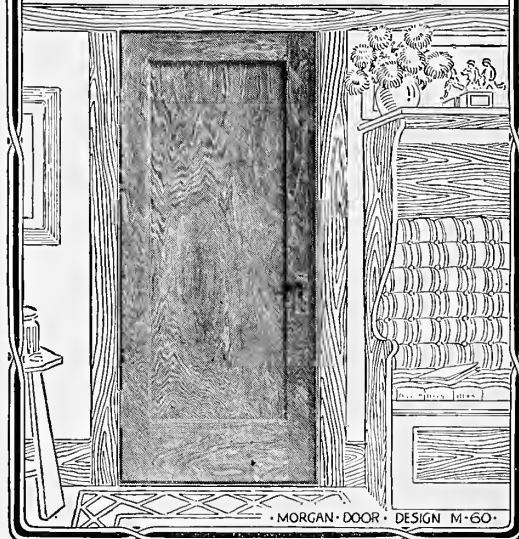
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be put. The Japanese maple has intensely red leaves, out very early in the spring, as early as the golden bells of the forsythia, and this red persists throughout the summer, deepening towards fall. Even in winter its red twigs never fail to attract attention. The American hemlock is easily the most beautiful of our Eastern evergreens, and a good nursery specimen, thick and bushy, with its feathery dark green foliage, will be a joy to its owner from the moment it is planted out. These trees in this group were added from time to time, the average cost being \$1.25 a tree, except the hemlock, which cost \$2.50. In the east front corner of the privet hedge we put in another retinospora plumosa, a biota, a whorled retinospora, a Koster's blue spruce, an American white pine and a pitch pine. The pitch pine is a three-needled, sap-green pine, strikingly handsome in appearance, growing wild all over South Jersey, and easy to transplant if taken in the early spring when not over three feet high.

All these evergreens are best planted in the early fall, September, October; or November at a pinch. If gotten in in the spring before May they will also manage to get through the summer, but if dug up when the season's growth has started they will surely die. They all come with burlaps wrapped around the roots, and nurserymen usually plant them just as received, depending upon the burlap to rot away. I always remove it, as I want a clean trunk down to earth, one that has no rags on it to catch the rake, and I think that the roots start out to lay hold on the soil quicker when not held in for a considerable period by a layer of burlaps. The reason that fall planting of evergreens usually succeeds better than spring is, not only less danger of loss through too much demand for sap due to the spring growth, but also because during the winter the roots continue to grow slowly and get a good hold on the soil before the spring rush demands a lot of sap for new growth in the crown.

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(Continued from page 426)

reaching out to take what he may and then retiring, with no anxiety for the rest of his kind. But how characteristic of primitive nature even to the human race! The Chinese had made a great advance when, instead of sealing themselves up as individuals or even as small families or cities, they included a nation within the protection of their great wall. Since then we have learned that no nation liveth unto itself, and, indeed, at present we painfully realize that no nations can slay and destroy each other without inflicting a blow upon the whole human race. Yet, in the face of the greatest setback of history, and in spite of the Bernhardt philosophy, when we look back to earlier civilizations, as in the time of Nero, we can say that altruism has slowly advanced and humanity will begin to climb once more as the present horrors subside. Though our generation may not see it, the day will come when great armaments shall be no more, and to those who look back upon to-day encircling fortresses will seem as primitive as the cell of the caddis.

There are many other species of the caddis displaying as many different forms of protective covering. One, for instance, builds a stationary shelter from which he sallies forth a very short distance in search of food, but turns homeward upon the slightest alarm.

These few descriptions will not be in vain if they induce someone to go hunting for other varieties of this small game, while the gun, with the spirit which generally accompanies it, can be left behind.

While some few species are carnivorous, the food of the caddis consists chiefly of water plants, although, strange to say, under certain circumstances they will eat the leaves of oaks, maples or almost any trees or shrubs. If you will hunt in the bottom of a little spring filled with clear, cold water and more or less surrounded by trees, where there is but little plant life and a gentle current, you will probably find many leaves which have apparently been skeletonized in a very careful manner, often wonderfully perfect and beautiful. These leaves are generally associated with the caddis, and I suspected that it was another manifestation of their skillful workmanship and had long hoped, some day, to catch them in the act, but met with no success until resorting to a little strategy suggested by a hopeful looking spring in the woods. Here the skeletonized leaves, as well as the caddis worms, were abundant, but the leaves were old and none of the work sought for was in operation. After giving the spring a thorough cleaning out and then replacing the caddis worms I picked a number of fresh leaves and put them in the water. Sitting down beside the spring I waited patiently for hours, but the little workers had been disturbed and refused to betray any se-

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crets, so I finally decided to give up for the day. Upon returning to the spring more than twenty-four hours later I was delighted to find my leaves, one of which is shown in the illustration, partly reduced to network and some of the caddis worms clinging to them. Getting down flat on the ground and watching closely with a magnifying glass I could see them very slowly nibbling the green leaf from between the veins.

It seems probable that the green leaves, which very often fall into a spring, are not chosen by the caddis as a most natural food supply, but are taken as a substitute where water vegetation is scarce, as it is apt to be in a cold spring in the woods. We may be very glad, however, that he is so resourceful and can adapt himself to conditions and thus add to his goodly account one more masterpiece of beauty to Nature's store.

The Purple and Gold Garden

(Continued from page 431)

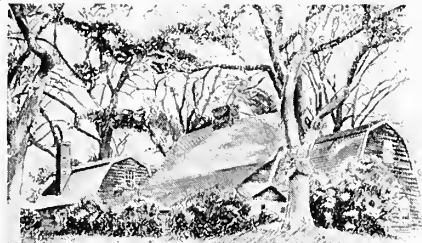
For the early tulips Yellow Prince, and Wauverman, dark violet, were selected. For the Darwins, Bouton d'Or, Ellen Wilmot and Mrs. Moon were used for yellow, Rev. Ewbank and Erguste for lavender, and Negro and La Tulipe Noire for deep purple and almost black. A few deep purple hyacinths are used in these beds and clumps of gladioli, Canary bird and Blue Jay, whose names speak for themselves. It may be asked how all these bulbs are to be crowded in. They are placed between the perennials, which seem to have the most free soil around their roots. After blooming, the tops are left until they turn yellow and are then cut off. They are not dug up and replanted each year, as some people suppose. The gladioli can be planted between the iris, as their leaves will blend nicely and the blossoms come at different times.

In the narrow bed next the house are vines and tall flowers. In the spring a *Forsythia suspensa* in the corner of the house will give early bloom, and its long, trailing branches can be trained against the house. Borders of primroses and deep, yellow daffodils, Trumpet major, Trumpet maximus, and the old-fashioned double Von Sion will make a change from the center beds.

In May purple wistaria, purple and yellow iris and the yellow *Azalea mollis* Anthony Koster will look well together.

In June the golden *Lilium Hansonii* will have the house for a background, and the Harrison's yellow rose and the deep purple *Clematis Jackmanni* will be effective as well as sweet.

Some gladioli and a little anthemis each side of the door will give color in this narrow bed until in the fall the purple asters and golden heleniums make a tall mass against the house. They will need to be tied up, no doubt. In each of the center beds is one helenium and one aster,



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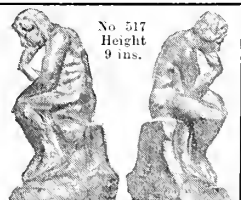
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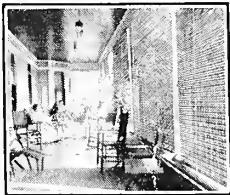
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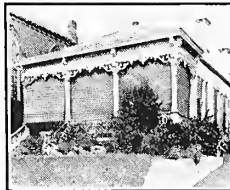
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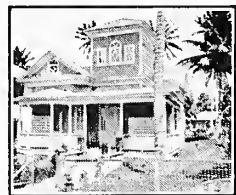


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and there are plenty of small, yellow-button chrysanthemums everywhere.

In the border the same flowers are used, but, unlike the square garden, there is more of informality in the arrangement and less of balance. Lilies are at the end of the path, where they form a fitting climax to the walk, and around the circle and the little statue are yellow daffodils succeeded by pale yellow snapdragons and purple stock, as well as the always desirable heliotrope. The little borders are irregular and composed of heliotrope, aubretias, violets, primulas and Iceland poppies with the little bulbs among them. At the back of the border are asters, heleniums and lemon-colored cactus dahlias. A fluffy mass of lavender-colored statice is just outside the hedge and there are scattered bunches of iris and phlox everywhere. The trollius, or tall double buttercup, for early spring, and lemon lilies for June, *Hemerocallis Thunbergii* (late) and *flava* (early) form accents on each side of the path at the lower end. The late yellow columbine and yellow-button chrysanthemums are used in long drifts. Between the chrysanthemums are tulips and between the columbines are gladioli, making in these spaces two crops of flowers. Tulips are scattered in irregular clumps of ten or twelve all along on each side of the central path.

Outside the garden for a background are some yellow birches contrasting with some dark green hemlocks, with daffodils in the grass and witch hazel and *Cornus mas* back against the fence.

In estimating the quantities of perennials needed allow 2' apart for large plants, 1' apart for the medium ones and 6" to 8" for the little border plants. For bulbs allow for the large ones 12", medium 6" to 8" and for the tiny ones 3" to 6".

The purple-and-gold garden would be full of life and color, yet there would be no discords. The gray stone walks and planting would make the flowers seem still more vivid by contrast. The garden would look well with a stone house.

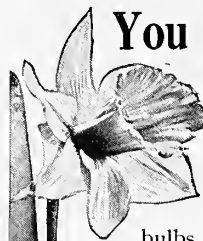
The cost is not great, comparatively speaking. Many perennials can be raised from seed, and the shrubs can be bought in small sizes if the owner is not impatient for immediate effect.



The House and Garden Index

The index to HOUSE AND GARDEN, which is compiled twice a year—in December and June—for the preceding six months, is now ready for distribution. Copies will be sent gratis to subscribers upon application.

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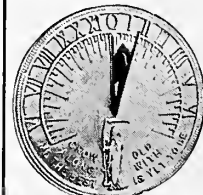
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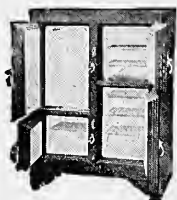
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1600 S. Jefferson St., Chicago

The Case for Wall-Board

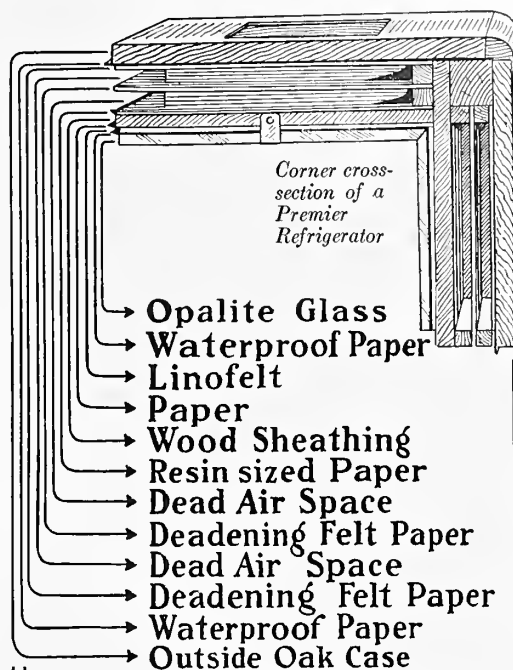
(Continued from page 433)

strips are applied. This avoids the possibility of a white edge should a wooden strip shrink slightly after it has been put in place. Any desired colors may be applied, and the variety of artistic color-schemes and stencil borders that may be worked out are almost endless. In general, use light colors in dark rooms, darker colors in light rooms. As the upper part of any room is darker than the lower, there being a natural gradation of light from floor to wall, frieze and ceiling, the shades of color applied may well reverse this progression, the lightest on the ceiling and the darkest on or near the floor.

Cold water, oil, flat-finish or enamel paint may be applied as on wood, plaster or steel, except that the best wall-board requires no priming coat. Flat- or dull-finish paints are most often employed, because they reflect a soft, restful light and may be washed to keep them absolutely clean. Two coats are sufficient, and stippling with a stiff brush intended for this purpose will spread the paint more uniformly without brush marks.

Such are the inherent advantages of wall-board in building a new house. It is of equal service, however, in the improvement of houses already built. Fully 20 per cent of the average house consists of waste space in attic or cellar on which insurance, taxes or rent are being paid. Wall-board provides the means to convert this space readily and economically into attractive, livable rooms. To do this is a clean, simple carpentry job which many a house owner will enjoy doing himself in spare moments. Because of its non-conductivity wall-board will render these barren, uncomfortable places cooler in summer and warmer in winter; lining them thus thoroughly always makes a perceptible reduction in the fuel bill, minimizing the upward flow of heat. A play-room, billiard-room, workshop or extra bedroom will be welcomed in any household, and this is the place and the way to have it at least expense; even as a store-room it is desirable to line the garret walls to prevent the percolation of dust through them.

In thousands of instances wall-board has proved itself invaluable for purposes of remodeling. When the plaster, especially the ceilings, becomes discolored by smoke or leaks, unsightly through the application of many coats of whitewash, cracked, broken or sagging with age, a satisfactory repair job demands the removal of the entire ceiling or at least one side wall, as the case may be. This is a dirty job at best, rendering the room uninhabitable for days or weeks and necessitating the removal of furniture or seriously endangering it if not removed. Then there is always the possibility that stains or waves will appear on replastered



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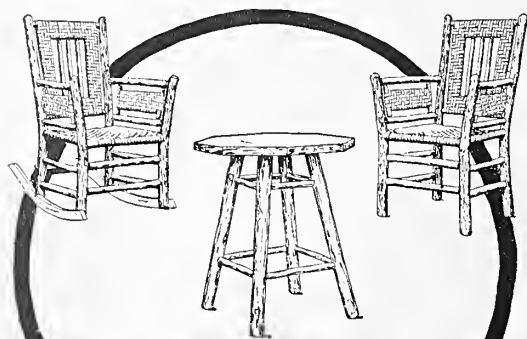
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surfaces; in fact, the only safe method is to remove and replace the lathing, and this entails considerable expense and untold dirt. Wall-board can be applied and finished in two or three days, with no objectionable dirt, by furring over the old plaster with strips $\frac{7}{8} \times 2$ inches, as for steel ceiling, and then nailing the panels of wall-board to these strips.

While wall-board finds an appropriate place in the mansion as well as the cottage, it is the lining *par excellence* for the summer camp or bungalow: no other is so economical or so satisfactory in every climate. Its non-conductive properties make the building warmer in winter and cooler in summer, while its low cost and simplicity of application ensure more artistic and restful interiors than are customary in summer homes for the minimum of cost, time and trouble. This is convincingly shown by the accompanying photographs of the Stone bungalow, where the living-room illustrates something of the panel possibilities with decorative wood strips, and one of the bedrooms the simpler treatment with wall-board strips.

Plaster is often impractical in out-of-the-way camps because of the high cost of materials and mason's labor, due to transportation charges; then, too, atmospheric conditions may be unfavorable. Wall-board is so light that the cost of transportation is very small. On its arrival the same carpenters who built the house can put it up. One thousand feet of wall-board weigh only a trifle over five hundred pounds, plaster nearly five times that.


The Fore-Court and Garden of a Farm House

(Continued from page 435)

ant sound. The pool is little bigger than a bird bowl but just big enough for the garden. Japanese iris in four groups around the pool make interesting reflections. A *Pinus mugho* specimen stands at each corner of the almost square grass plot and gives four green accent points.

Narrow flower borders edge the garden. There are very few flowers, but they are arranged with great care and are of sufficient variety to insure a succession of bloom. When I saw it in early July two great peony bushes marked either side of the seat with their striking foliage, the white Japanese iris were in full bloom around the pool, the foliage of the German iris made accent points in the border; the foxglove had just faded, the larkspur was beginning to open into bloom and a very little early pink phlox, very likely the charming variety, "Elizabeth Campbell," had just come out.

This is a perfect expression of a garden. It has all the elements requisite for a garden—proper enclosure, flower borders, grass plot, pool, seat, united into an harmonious composition. Though restricted in area and in the selection of plants, there is no limitation to the attainment of perfection of proportions and design, choice-



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ness in color effects, and finish in small details.

This small garden is suggestive to the owner of farm houses where a charming garden can be had. It is suggestive as well to the owners of small properties, who generally despair of having gardens because they lack spacious grounds and unlimited wealth. It hints at the possibilities of the small garden of good design and planting for which there is ample opportunity in our suburban towns. Such a perfect example of the small garden is welcome as an inspiration and incentive to more as well as better gardens.

Efficiency in the Flower Garden

(Continued from page 427)

are without a rival for the late summer or fall garden, and are fine for cutting during a season when flowers for cutting are scarce. There is now almost as much variety in the shape of the flowers as in the colors. And as the various types are so decidedly distinctive in appearance as to be almost like separate flowers, before ordering any you should be sure that it is of a type that you like, as some people prefer the grace and beauty of the cactus type with its curled and incurved petals, and others the more uniform and symmetrical flowers of the show and decorative types. The peony-flowered sorts are of newer origin and form a type between the decorative and the cactus, the petals being much broader than the latter, but to some extent twisted and curled. The collarette dahlias are particularly charming, both on account of their form and the pleasing contrast of colors which most of them show. They have broad-petaled single flowers, with a collar or row of short, frilled single petals inside of these, about the center of the flower—and usually of a contrasting color. The single or century dahlias, while not so well known as the others, should be included in every collection, even where only a few varieties are used. The flowers are five inches or so across and borne on long, stiff stems, so that in addition to their grace and beauty, they are well suited for cutting. The duplex type is similar, but with a double row of petals. Both of these kinds are excessively free flowering. The miniature pompon type has not been developed so rapidly as the others, but contains a number of very beautiful varieties, and on account of their small size they are particularly useful for cutting when used in connection with other flowers.

The growing plants should not be set out until after all danger of frost, but the bulbs or roots can be put in a little earlier. In planting the latter cut the roots up so that only one or two clumps will be planted in one place; otherwise too many stalks will be thrown up for good flowers to be obtained.

Gladioli are different from most of the other summer flowering bulbs in that they are comparatively hardy. For this reason

Bird Fountains



ONE of the most attractive sights about the country place is a group of birds taking their morning dip in a fountain built expressly for their enjoyment.

Several designs, of which this is one, are shown in our "Bird Fountain" catalogue which we will gladly mail on request.

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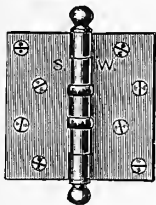


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6 ft. long	60	\$1.00	\$2.50	\$7.50
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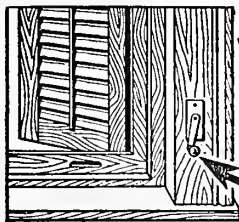
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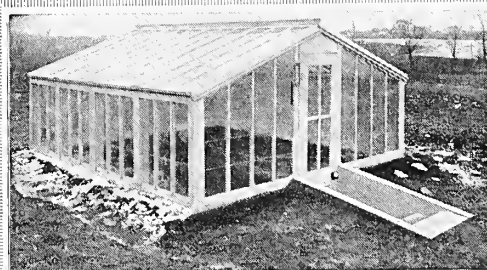
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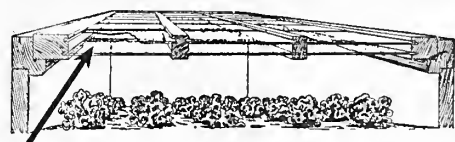
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most people make the mistake of planting them early in the spring only. To have flowers after frost—and they are at their best during late August and September—they should be planted at intervals of two weeks or so up to the middle of June or the first of July. If you have planted all of your bulbs this year get a few now—they are usually cheaper at this time of the year—and make another planting or two, putting some two inches deep and some four, so that they will not all come along together. Gladioli bulbs are comparatively hardy and they can be taken in any time in the fall before freezing weather. In taking them up be careful to save all the small bulbs which form on the old bulbs. These planted the next spring will give fine flowering bulbs the year following.

Cannas have vied with dahlias in their development during the last few years. Whereas many are still grown for their value as ornamental foliage plants, there are now dozens grown which are in the very first rank of flowers for superb effect in bedding, and beautiful also for cut flowers. For this purpose they have, in common with the gladiolus, the great advantage of continuing to open up new buds on the flower spikes for a long time after they are cut. The newest flowers are of truly gigantic size, some being a full eight inches across. The colors include solid shades of pink, yellow and white, in light and dark shades, and many striking variegated sorts with lily-like effect. Like the dahlias, they can be planted either from dormant roots or started plants. Dormant roots are usually not obtainable after the first of May; but as the started plants cost but a little more, this is no disadvantage. Cannas are very strong growers and rank feeders and the ground for them should be particularly well supplied with manure, and an abundance of water given during dry weather. On account of their habits of growth cannas make particularly effective centers for beds of various kinds of flowers. From one to six plants are usually enough for a medium-sized bed. They are most effective, however, when used in separate beds by themselves. Only one variety should be planted in a bed.

The caladiums or "elephant's ears" are quite distinct in the tropical effect they produce, not only as summer flowering bulbs, but as any other garden plants available for use in northern sections. For beds in front of tall verandas and in corners of walls and in other places they will fit in. The ornamental-leaved sorts do not grow so large, but the leaves are wonderfully marked and variegated in pleasing color combinations which are always interesting.

Tuberous-rooted begonias may be had in plants or in flower at this time of the year at reasonable prices, and they will continue to flower freely throughout the season until frost. The bulbs should then be taken up, and they are easily kept over

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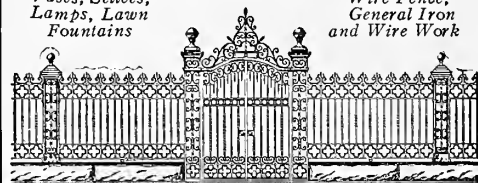
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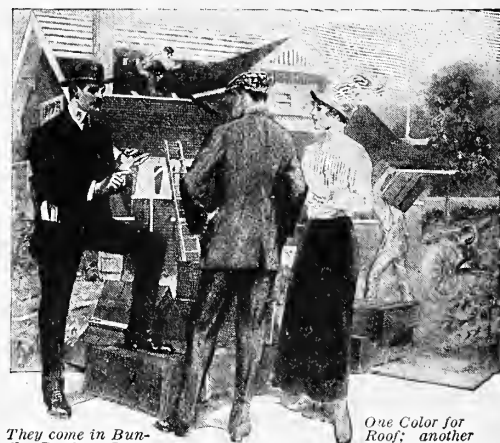


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until it is time to plant them out or start the next season. They are particularly valuable for shady positions, being the best of flowers for a low bed between the path and veranda, where there is frequently a narrow garden strip that is in shade part of the day, with a background too low for tall-growing plants. The individual flowers, as well as the general effect, are strikingly beautiful. As beds of this sort frequently get very hot and dry during the part of the day when the sun does strike them, a mulch to cover the surface when hot weather comes is highly desirable. As the growth is brittle they should have a support of a light stake, except when grown in such masses as to support themselves.

In addition to these there are available a number of other bulbs that can be planted now for results this year, including tuber roses, the summer-flowering hyacinth (which is hardy and does not have to be taken up in the fall) and Tigridias or shellflowers, which bloom freely throughout the summer, having large lily-like flowers. They cost but a few cents apiece and should be planted in every garden where a variety of flowers is appreciated. Ranunculus and zephyranthes, or wind flowers, are two other simple little flowers in a number of charming colors, which are not among the universally known kinds, but well worthy a spot in the garden.

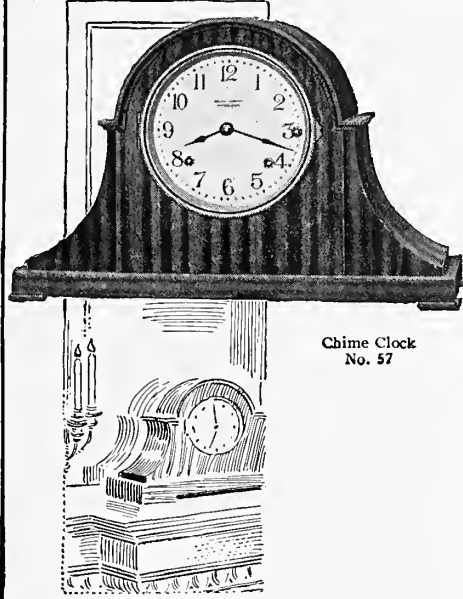
The Saturday Afternoon Garden (Continued from page 419)

The succession plantings of beans should be put in every three weeks or so, so as to be sure to have a supply of pods in the best table condition. Most of the dwarf varieties get too large to be really good in a short time. The "wax" type is the best for summer use. In planting lima beans, which are one of the last things to go into the garden, as they are very tender, be sure to plant each seed with the eye down. They should be covered $1\frac{1}{2}$ " to 2" deep and planted in rather dry soil when there is little prospect of a rain for some days to come. The slightest surplus of moisture in the soil is almost certain to cause them to rot. Endive and lettuce can be sown where they are to grow and thinned out afterwards, although where space is limited it is better to start them and to transplant them later, as already suggested. In case they are sown in their permanent positions thin out the plants to about 6" after they are well started, and then take out every alternate plant as soon as they begin to crowd. This method is particularly successful with the loose-headed kinds of lettuce.

Peas may be sown up to about the first of July, or even later, if one has irrigation or moist soil. They will not be successful, however, in hot, dry weather unless water can be applied freely. The spring varieties of radish, if planted now, quickly get pithy and tough; therefore the summer

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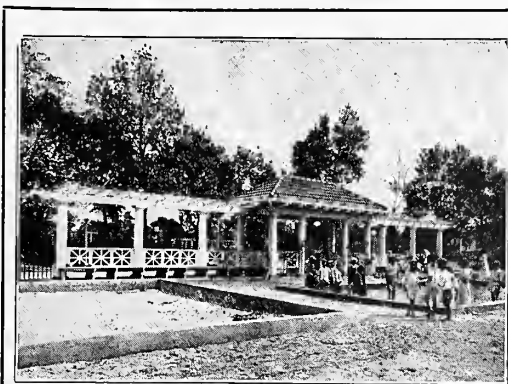
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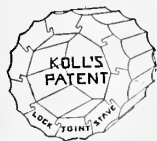
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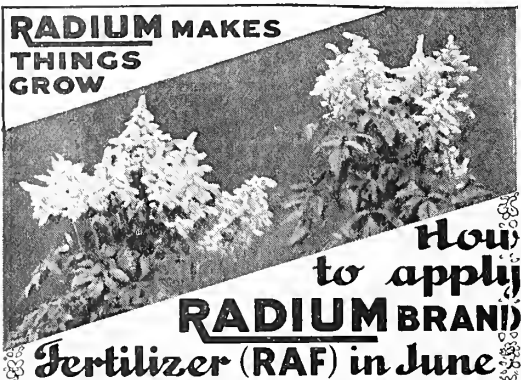
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varieties, such as White Strasburg, should be sown now. If a succession crop of spinach is wanted sow New Zealand, which is distinct from the ordinary spring varieties and of a low-spreading growth, so that it should be given plenty of room.

The root crops, aside from parsnips and salsify, which should have been planted when the garden was first made, should be put in this month, with the exception of turnips. For this purpose Detroit dark red beets, and either Chantenay or Half Long Danvers carrots are excellent. Sow, if possible, just after a good, soaking rain. The seeds may be put in more thinly than for the first spring sowings, as the fall germinations will now be more favorable. Rake the ground over carefully just before planting to destroy any sprouting weed seeds. This will take only a few minutes now and may save several hours' work at the time of the first weeding.

Every Saturday afternoon, if not oftener, you should look over the garden carefully in search of the first sign of injury from insects or disease. Otherwise, even with the best seed, fertilizer and care, the crops may be destroyed beneath your very eyes. Just as the doctors are placing more and more emphasis upon the importance of sanitation, rather than upon medicine, the garden doctors are emphasizing the fact that prevention, rather than cure, is the surest and in the end the most economical method of keeping plants healthy. With a modern compressed-air sprayer or powder gun, the work of applying sufficient preventative to such vegetables liable to attack is very slight and can be done with a trifling expenditure of time.

If you will watch the various insects at work you will soon see that some of them eat or chew the leaves, while others seem to thrive lustily with no visible means of support. The plants to which the latter attach themselves, however, soon show the effect, as they live by sucking the plant juices and frequently do more harm, although it is not so quickly evident as that done by the eating insects. For the former class internal insecticides, which are all called "stomach poisons," are used. As the latter suck the juices from the inside of the plant, under the skin, they cannot be reached in the same way, but must be destroyed by an application of something proving fatal to them when applied externally. Arsenate of lead, Paris green and hebeore are the three most commonly used chemical internal poisons. Formerly Paris green was used almost universally, but it has been displaced, to a large extent, by arsenate of lead, which has the double advantage of staying on the plant much longer, being practically impervious to rain after it once has been set, and being safe to use without danger of injuring the foliage, as Paris green does do, unless it is used very carefully. Hebeore is the weakest of the three, but as it washes off very readily with the first rain and is safer to apply, it is sometimes

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used in the home garden, particularly upon things which are nearing maturity, such as heads of cabbage for the cabbage worm, currants, and so forth.


A good supply of arsenate of lead and Paris green, preferably the former, should be kept on hand. It can be had in either a paste or a powder form, the latter being available for use either for spraying or dusting, while the former can be used for wet spraying only.

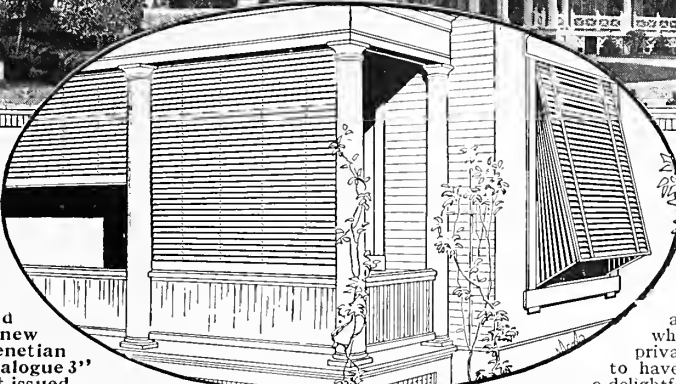
The insecticides for sucking insects are of a number of different kinds. Some of the most effective contain a considerable percentage of nicotine, combined with other oils, which will mix readily with water to form an adhesive spray. Kerosene Emulsion is a standard treatment for sucking insects and one of the best to use. You can either make your own solution or buy a small can of stock solution, which need only be mixed with cold water to be ready for use. The ingredients are: $\frac{1}{2}$ pound of good soap cut into thin slices and dissolved in hot water; when thoroughly dissolved, mix this with $\frac{1}{2}$ gallon of water and 2 quarts of water and 4 quarts of kerosene in a pail or small tub. Then churn vigorously until of the consistency of lathery cream; a force pump used to pump the material is the quickest and most convenient way. When cool, store in large bottles or some other suitable containers until needed. For use dilute with water; for most purposes dilute ten times. An excellent and effective repellent for general purposes, and one which is easily applied, is tobacco dust. In buying it be careful to get a kind which is made to use particularly for this purpose. It is particularly valuable for dusting over young plants of melons, pumpkins, cucumbers, squashes, and so forth, and the seedling plants of cabbage, cauliflower, lettuce and radishes to keep off the blight cucumber beetle and the flea beetle.

The diseases which cause the greatest amount of damage and which are to be most feared are blight and mildew. The standard remedy for these is Bordeaux Mixture, but to be wholly effective it must be used before the disease gains a foothold. While the Bordeaux Mixture, like Kerosene Emulsion, can be made at home, it is much more convenient for use on a small scale to buy it ready prepared. It comes in the form of a paste, which, when diluted with water according to directions, is ready for use. It should be applied frequently enough to keep all new growth covered to be effective. Once a week or every ten days for growing crops like potatoes is sufficient. Crops which do not grow so rapidly do not need it so frequently, as when once applied it stays on through wind and rain.



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House & Garden for July

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How a woman whose love for her native Italy constrained her to reproduce a house of Italian lines and atmosphere in New England.

How to dress the house for hot weather—getting your home into a comfortable negligee of light curtains and furniture and rugs.

How Nature protects her own by coloring and lines, making each bird and bug a product and protegee of its environment.

How a band of women in Kingston, N. Y., rejuvenated interest in gardening, and brought back to the town an old time glory.


How to select the right kind of wall treatment for your house, and how the walls can be decorated and cared for with the best results.

How a man who had a penchant for fireplaces built a summer house of seven hearths, each striking and effective.

How to know when a dog has rabies and how best to handle him under these circumstances.

How an impatient woman who wanted a quick-growing garden made over her place in an unbelievably short time.

How—but there are scores of other ideas and suggestions. Read the July number. If you read that, you'll read all the rest. Send 50 cents for the next three issues.



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Furnishing the Garden Living-Room

(Continued from page 413)

and inexpensive. In many cases no floor is necessary, the grass being sufficient. It were wiser, however, to provide little wicker footstools to guard against dampness. Striped awnings give a gay touch of color to the garden. They come in striking combinations, from the expensive painted ones of orange, brown and green stripes, to the cheaper woven variety of blue and white. Some are painted green on the under side, shedding a soft, subdued light.

Canton furniture is the best to use in these canopied pavilions. It is light, cheap and durable and has rather a look of the East, especially harmonizing with the gay-striped awnings.

A simple way of making a little pavilion is to stretch a canopy from the garden wall. This, of course, forms little protection in rough weather, but at least it affords a shady resting place. A long settee with drawers under the seat provides a place to tuck away cushions and covers in case of a shower.

One must expect to give the outdoors living-room some attention and care. While it is bothersome to have the care of our garden furniture on our mind, yet if we relegate to it more than the bare necessity of bench and table we must be willing to have a care as to cushions, cover and books when necessary.

The terrace and pergola are an elaboration of the canopy hung from the garden wall. The terrace brings to our mind peacocks and urns and garden hats and high tea in England. They are the amphitheater of the garden, and from them the garden is a thing of vistas. Their centers of attraction may be a sundial amidst the flowers, or a bird bath and a marble or terra cotta bench, or a bee-hive within hailing—but calling distance. Best of all is a fountain as the center or as the culmination of a vista. A marble bust may be placed against the green background of a hedge, and always most lovely is a marble vase or urn. Terra cotta jars, similar to the oil jars of Sicily, make a good silhouette. All garden effects are a matter of silhouette and color masses. Terra cotta vases are not expensive. Their substitute, blue and gray ironware jars, well set in a simple garden, add a note of distinction. The desirable point is always the beauty of outline. Large Italian and Spanish glazed vases are wondrous things in a garden, but alas! bring prohibitive prices.

There are interesting effects to be gotten in a Japanese garden, although we are apt to tire of it. It would seem a little too trivial and exotic. As a side feature of a larger garden it is a charming thing to wonder at and wander through. But it is really too detached to take its place in our Western world; moreover, very few houses lend it a suitable back-

ground. It were best, perhaps, to limit our Japanese gardens to table decorations.

Little outdoor nurseries or playrooms are a boon to the children. There they have no restrictions against picking flowers or trampling lawns. Small movable pavilions are easily and cheaply procured, and with a sand box and sturdy furniture they may take their place in an out-of-the-way corner of the garden.

The third type of garden living-room is the detached garden grouping. A settee set against shrubbery with a table and a couple of chairs—all in white wood—gives a clean, fresh look to a garden. A little bower of lattice overgrown with vines makes an attractive resting place; a double sun chair, similar to the bathing chairs of European resorts, is a roomy and easily moved adjunct. A seat of concrete, architecturally suited to the house, adds just the right amount of dignity needed in a formal garden.

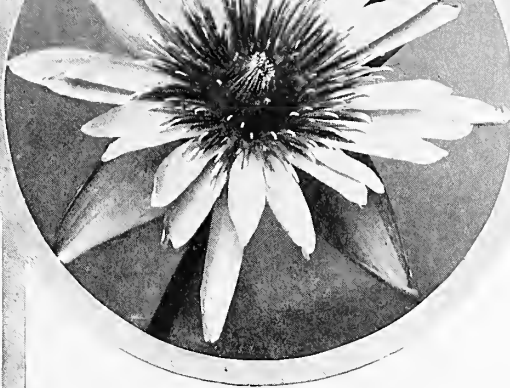
The matter of floor covering is always a feature in outdoor furnishings. Large red and buff tiles make serviceable floors; they are easily cared for and always cool. Over these, however, we may need something else. For hard wear Algerian fiber rugs come in plain tans or with colored borders. They are weatherproof. Numerable hemp, rush and fiber mats are on the market; for more protected wear there are Crex, Bungo, Scotch and domestic woolen rugs of tapestry weave. Matting proves very disagreeable in damp weather and should not be used.

Screens play a necessary part on chilly nights. Besides numerable varieties made of wicker there are some with oak frames about two inches wide with wicker panels. Hawaiian screens, made by natives, of flat reed in brown with a zigzag pattern in green are light and prove a good wind-shield. A cheap, easily constructed screen is made from window blinds fastened together with hinges, the edge of each shutter painted white, the rest green.

There have never been such attractive fabrics for hangings and cushions to choose from as this season. They are made purposely for outdoor rooms. As one can stand more brilliant color there than indoors colored stripes abound. Black-and-white-striped chintz with a black-and-white Chinese figured chintz may be well combined in porch decoration. Designs for pillows popular this season are made of blue and white checks edged with green and green and white edged with black. Garden cushions of not too futuristic design, but with pure, fresh, brilliant colors, add a note of life and gaiety to the garden. Madagascar cloth cushions in wide brilliant stripes are weatherproof and inexpensive.

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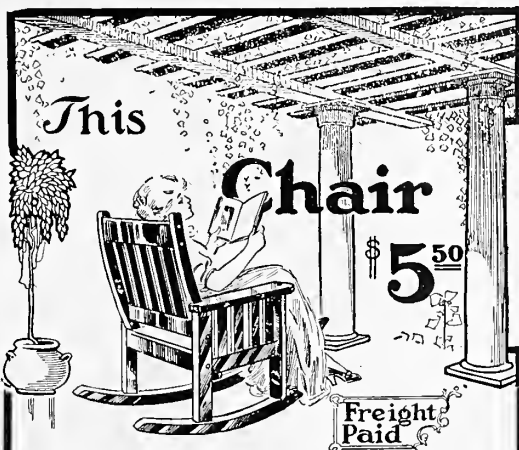
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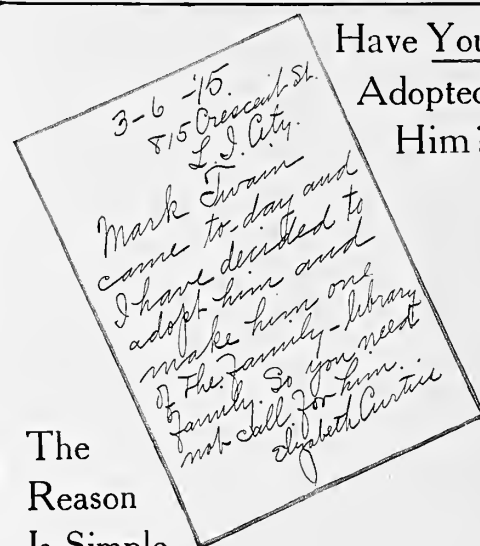
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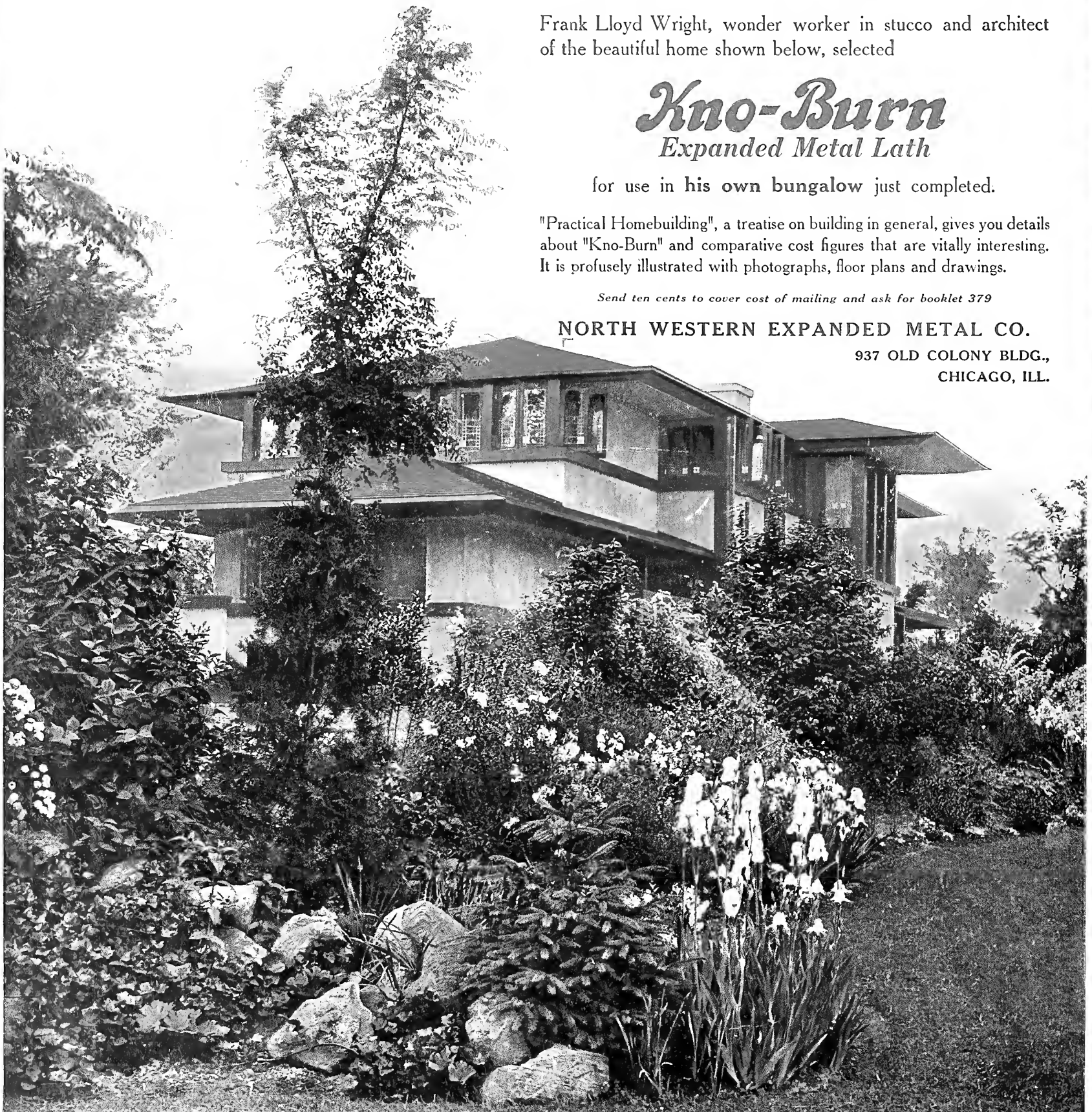
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